PARKING STUDY SUPPLEMENTAL REPORTS

MIAMI BEACH PARKING

MIAMI BEACH, FLORIDA

Prepared for:
CITY OF MIAMI BEACH

SEPTEMBER 4, 2015

WALKER
PARKING CONSULTANTS

PROJECT NO. 15-1988.00

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INTRODUCTION

The purpose of this supplementary report is to provide a summary of the findings for the South Beach parking study considering only the City owned publicly available parking.

All Private Parking is excluded from this report.

The study area generally encompassed the area from Dade Boulevard to South Pointe Drive, sub-divided into five Zones.

Each Zone is uniquely numbered, broken down by block using a three digit number, with the first number corresponding to the Zone for identification purposes. The Zone number and descriptions are:

- **Zone 1 Alton Road Corridor**

  5th Street to 17th Street and from West Avenue/Bay Road to Lenox Avenue

- **Zone 2 Convention Center and Sunset Harbour (north of 17th)**

  17th Street to 23rd Street/Dade Boulevard and from Alton Road to Collins Avenue

- **Zone 3 Flamingo Park / Residential Area**

  5th Street to 17th Street and from Lenox Avenue to Pennsylvania/Drexel Avenue

- **Zone 4 Ocean Drive Corridor**

  5th Street to 1o 17th Street and from Pennsylvania/Drexel Avenue to Collin Avenue/Ocean Drive

- **Zone 5 South Pointe**

  South Pointe Drive to 5th Street and from Alton Road to Ocean Drive

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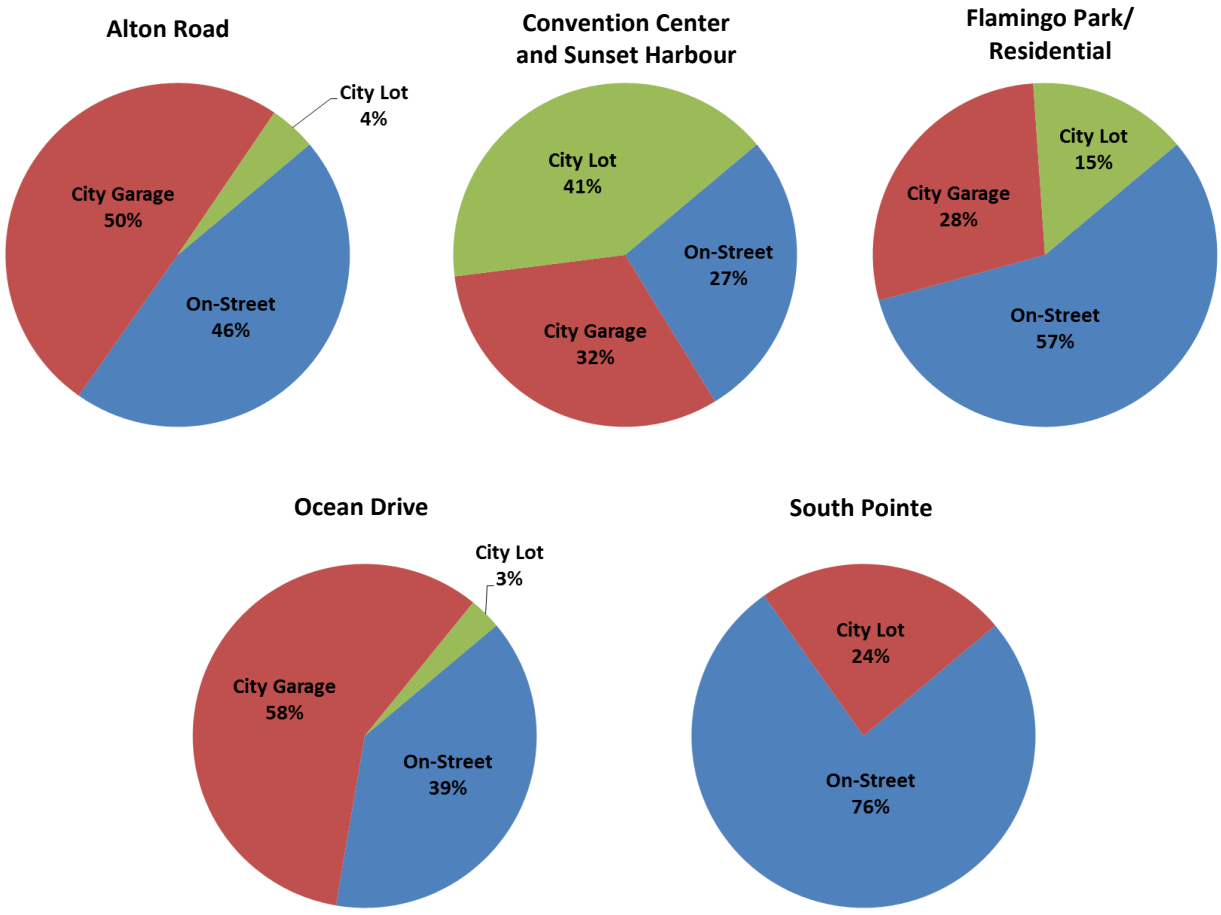
PARKING INVENTORY

A total of 16,302± City owned parking spaces were inventoried within the five Zones. On-street parking constitutes the majority of City controlled parking. The City has public parking garages located within Zones 1 – 4 and surface lots within all the five Zones. The following table provides a summary of the City owned parking inventory.

Exhibit 1: Summary of Public City Parking Inventory

Zone #	Name	On-Street	City Garage	City Lot	Total:
100	Alton Road	968	1,050	93	2,111
200	Convention Center & Sunset Harbour	930	1,081	1,391	3,402
300	Flamingo Park/ Residential	2,944	1,460	776	5,180
400	Ocean Drive	1,616	2,424	126	4,166
500	South Pointe	1,101	0	342	1,443
	Totals:	7,559	6,015	2,728	16,302



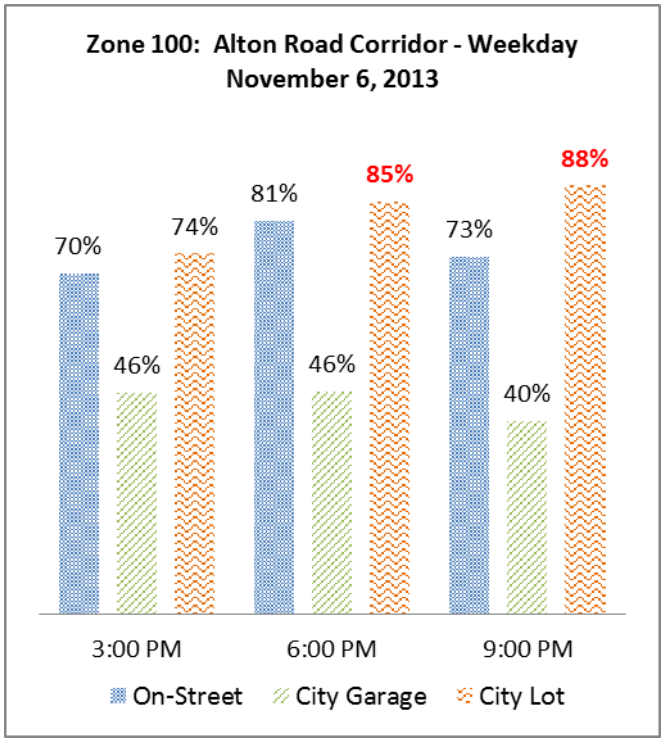
OBSERVED CONDITIONS

Parking occupancy for weekday and weekend periods is summarized by type for each zone on the following pages. Parking occupancy above 85 – 90 percent is generally perceived as difficult to find or problematic. Even when overall parking occupancy is below this level as a whole, parking can be difficult to find within individual blocks or areas.

To assist in identifying the high occupancy areas, when occupancy reaches or exceeds 85% red is used to bring attention to the area.

Exhibit 2: Alton Road Corridor - Weekday and Saturday Parking Occupancy Nov 2013

November 2013		PEAK HOUR					PEAK HOUR	
WEEKDAY	**Inventory**	**3:00 PM**	**6:00 PM**	**9:00 PM**	**SATURDAY**	**Inventory**	**7:00 PM**	**10:00 PM**	**1:00 AM**
On-Street	968	679	784	711	**On-Street**	968	732	732	692
Occupancy Rate		*70%*	*81%*	*73%*	*Occupancy Rate*		*76%*	*76%*	*71%*
Unoccupied Spaces		*289*	*184*	*257*	*Unoccupied Spaces*		*236*	*236*	*276*
Garage	1,050	478	481	417	**Garage**	1,050	544	410	300
Occupancy Rate		*46%*	*46%*	*40%*	*Occupancy Rate*		*52%*	*39%*	*29%*
Unoccupied Spaces		*572*	*569*	*633*	*Unoccupied Spaces*		*506*	*640*	*750*
Public City Lot	93	69	79	82	**Public City Lot**	93	73	60	29
Occupancy Rate		*74%*	**85%**	**88%**	*Occupancy Rate*		*78%*	*65%*	*31%*
Unoccupied Spaces		*24*	*14*	*11*	*Unoccupied Spaces*		*20*	*33*	*64*
Total	2,111	1,226	1,344	1,210	**Total**	2,111	1,349	1,202	1,021
Occupancy Rate		*58%*	*64%*	*57%*	*Occupancy Rate*		*64%*	*57%*	*48%*
Unoccupied Spaces		*885*	*767*	*901*	*Unoccupied Spaces*		*762*	*909*	*1,090*



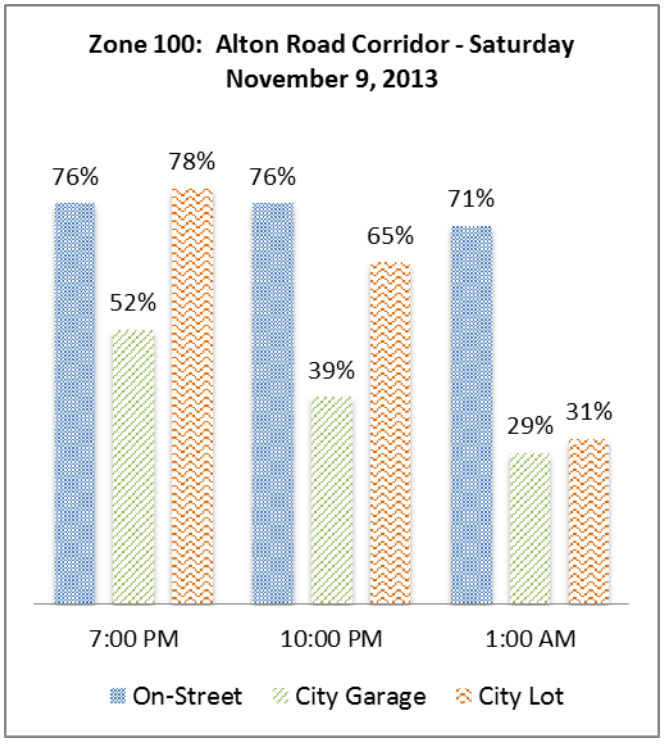
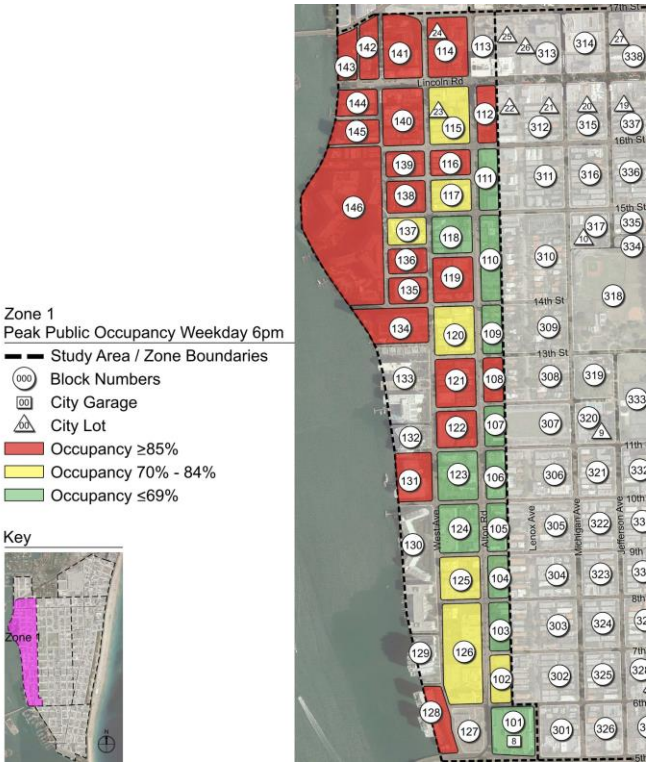


Exhibit 3: Alton Road Corridor - Weekday and Saturday Peak Occupancy Maps Nov 2013



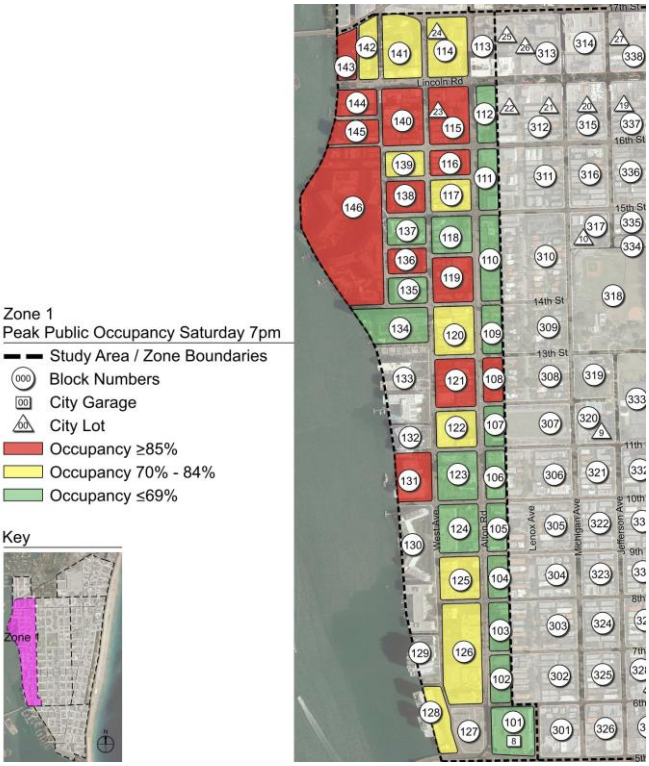
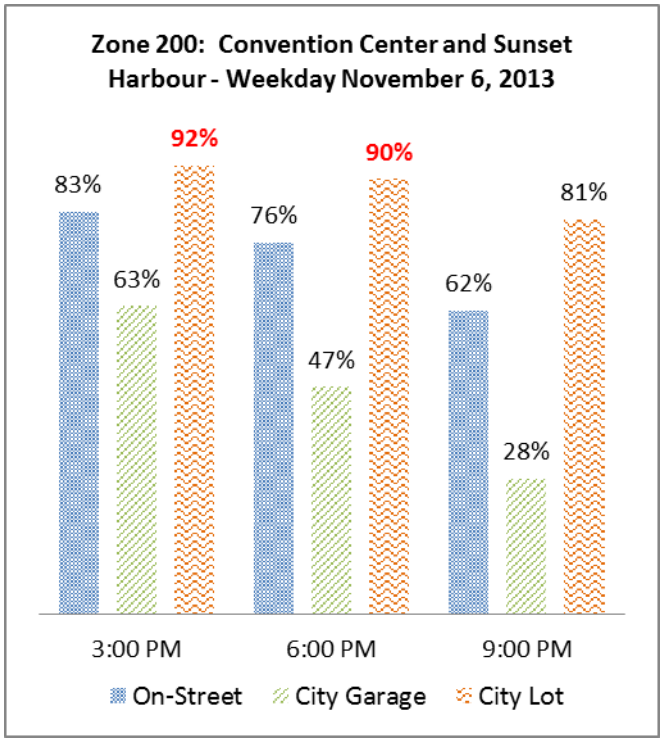


Exhibit 4: Convention Center & Sunset Harbour - Weekday and Saturday Parking Occupancy Nov 2013

November 2013		PEAK HOUR		
WEEKDAY	**Inventory**	**3:00 PM**	**6:00 PM**	**9:00 PM**
On-Street	930	770	711	580
Occupancy Rate		*83%*	*76%*	*62%*
Unoccupied Spaces		*160*	*219*	*350*
Garage	1,081	685	505	301
Occupancy Rate		*63%*	*47%*	*28%*
Unoccupied Spaces		*396*	*576*	*780*
Public City Lot	1,391	1,284	1,245	1,128
Occupancy Rate		**92%**	**90%**	*81%*
Unoccupied Spaces		*107*	*146*	*263*
Total	3,402	2,739	2,461	2,009
Occupancy Rate		*81%*	*72%*	*59%*
Unoccupied Spaces		*663*	*941*	*1,393*

		PEAK HOUR		
SATURDAY	**Inventory**	**7:00 PM**	**10:00 PM**	**1:00 AM**
On-Street	930	637	629	638
Occupancy Rate		*68%*	*68%*	*69%*
Unoccupied Spaces		*293*	*301*	*292*
Garage	1,081	344	367	255
Occupancy Rate		*32%*	*34%*	*24%*
Unoccupied Spaces		*737*	*714*	*826*
Public City Lot	1,391	1,263	1,293	1,387
Occupancy Rate		**91%**	**93%**	**100%**
Unoccupied Spaces		*128*	*98*	*4*
Total	3,402	2,244	2,289	2,280
Occupancy Rate		*66%*	*67%*	*67%*
Unoccupied Spaces		*1,158*	*1,113*	*1,122*



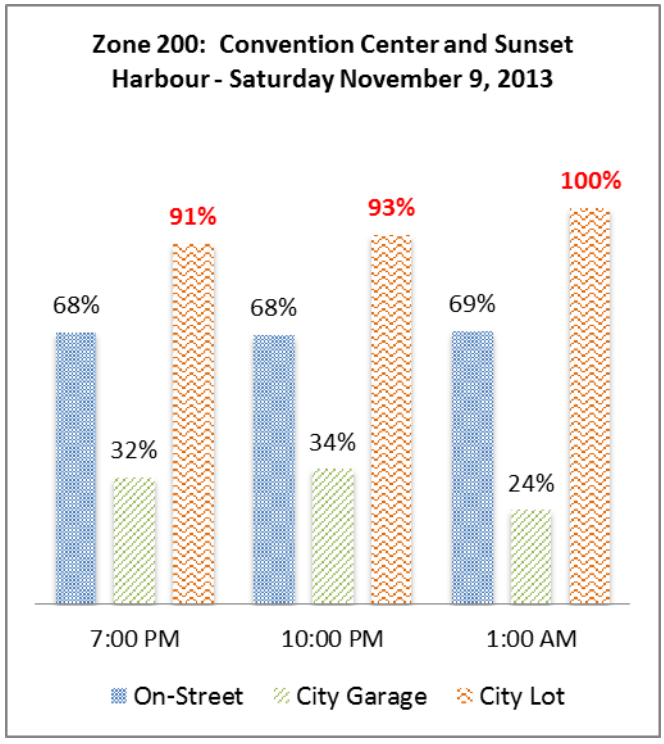
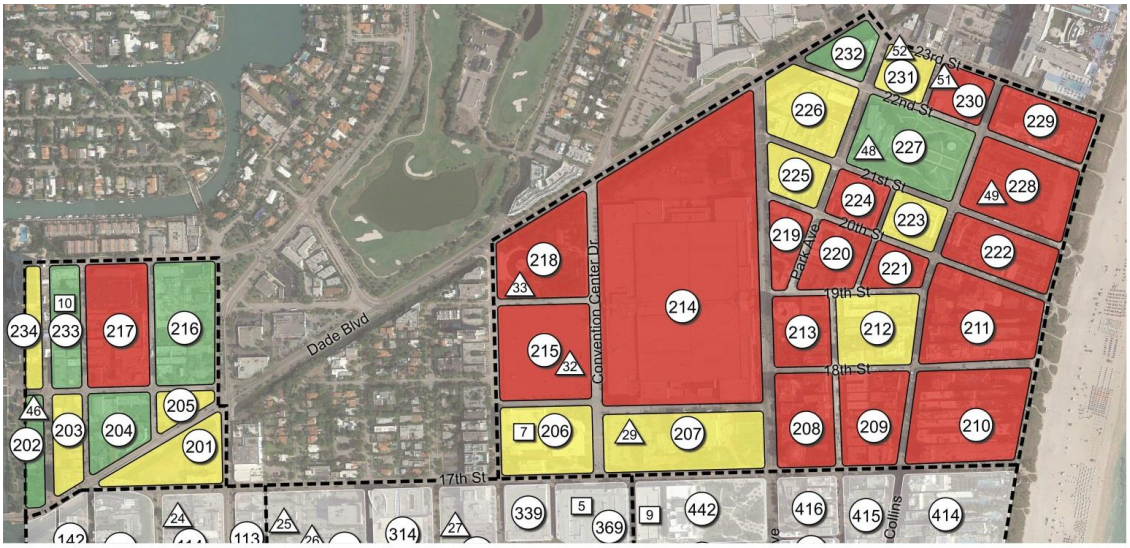
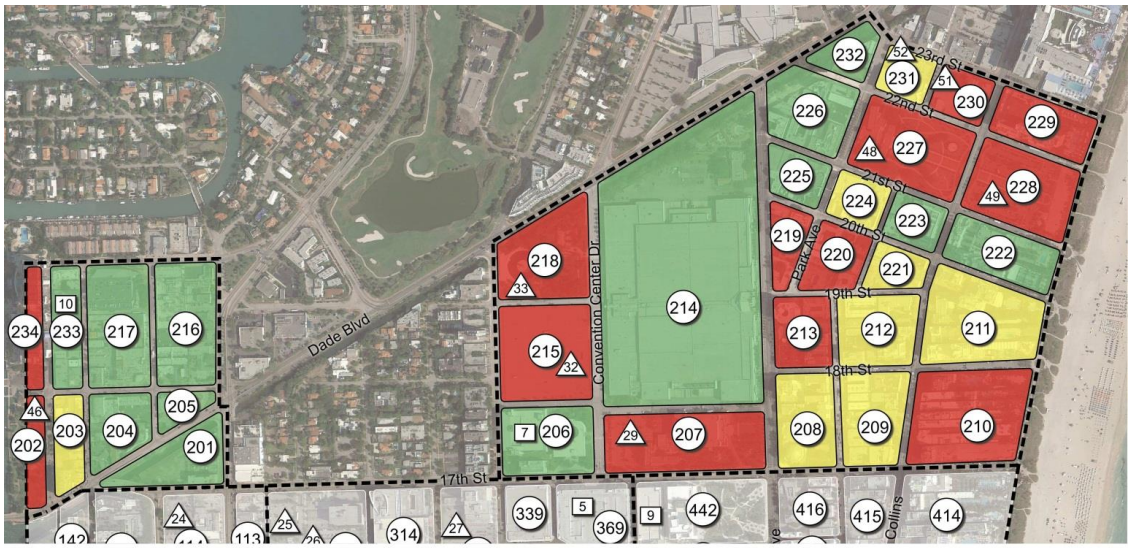


Exhibit 5: Convention Center & Sunset Harbour - Weekday and Saturday Peak Occupancy Maps



Zone 2 - Peak Public Occupancy Weekday 3pm

- Study Area / Zone Boundaries
- (000) Block Numbers
- Occupancy ≥85%
- Occupancy 70% - 84%
- Occupancy ≤69%
- [00] City Garage
- 00 City Lot

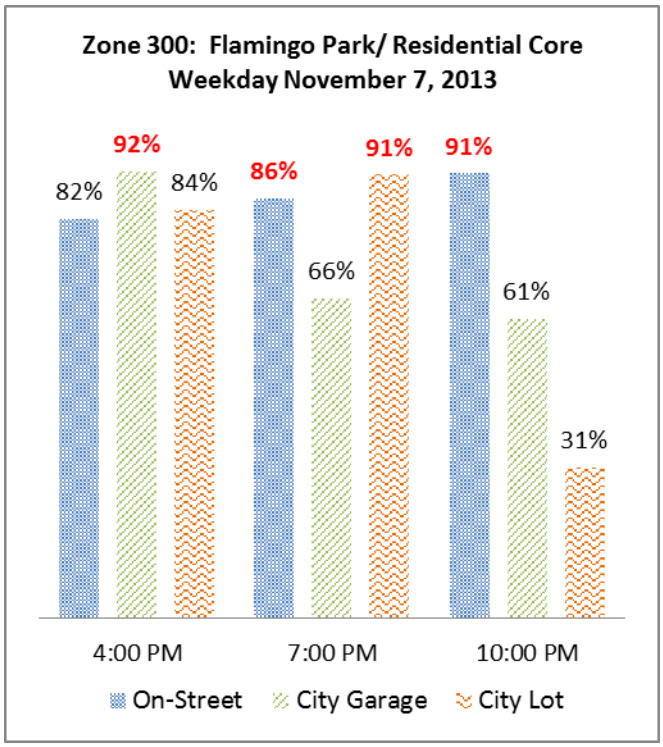


Zone 2 - Peak Public Occupancy Saturday 10pm

- Study Area / Zone Boundaries
- (000) Block Numbers
- Occupancy ≥85%
- Occupancy 70% - 84%
- Occupancy ≤69%
- [00] City Garage
- 00 City Lot

Exhibit 6: Flamingo Park/Residential Core - Weekday and Saturday Parking Occupancy Nov 2013

November 2013		PEAK HOUR					PEAK HOUR		
WEEKDAY	**Inventory**	**4:00 PM**	**7:00 PM**	**10:00 PM**	**SATURDAY**	**Inventory**	**12:00 PM**	**5:00 PM**	**10:00 PM**
On-Street	2,944	2,406	2,533	2,682	**On-Street**	2,944	2,512	2,504	2,599
Occupancy Rate		*82%*	**86%**	**91%**	*Occupancy Rate*		**85%**	**85%**	**88%**
Unoccupied Spaces		*538*	*411*	*262*	*Unoccupied Spaces*		*432*	*440*	*345*
Garage	1,460	1,336	957	894	**Garage**	1,460	1,460	1,460	1,349
Occupancy Rate		**92%**	*66%*	*61%*	*Occupancy Rate*		**100%**	**100%**	**92%**
Unoccupied Spaces		*124*	*503*	*566*	*Unoccupied Spaces*		*0*	*0*	*111*
Public City Lot	776	649	705	240	**Public City Lot**	776	657	590	448
Occupancy Rate		*84%*	**91%**	*31%*	*Occupancy Rate*		**85%**	*76%*	*58%*
Unoccupied Spaces		*127*	*71*	*536*	*Unoccupied Spaces*		*119*	*186*	*328*
Total	5,180	4,391	4,195	3,816	**Total**	5,180	4,629	4,554	4,396
Occupancy Rate		**85%**	*81%*	*74%*	*Occupancy Rate*		**89%**	**88%**	**85%**
Unoccupied Spaces		*789*	*985*	*1,364*	*Unoccupied Spaces*		*551*	*626*	*784*



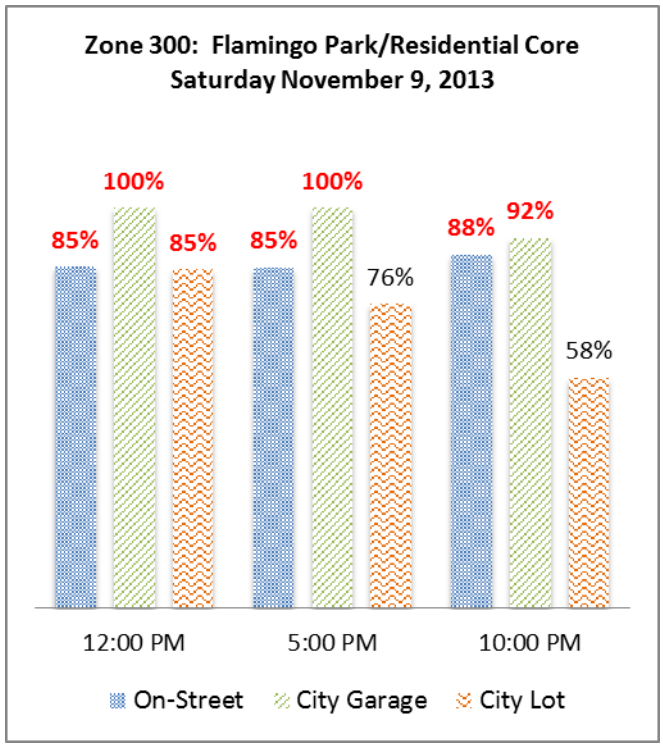


Exhibit 7: Flamingo Park/Residential Core - Weekday and Saturday Peak Occupancy Maps Nov 2013

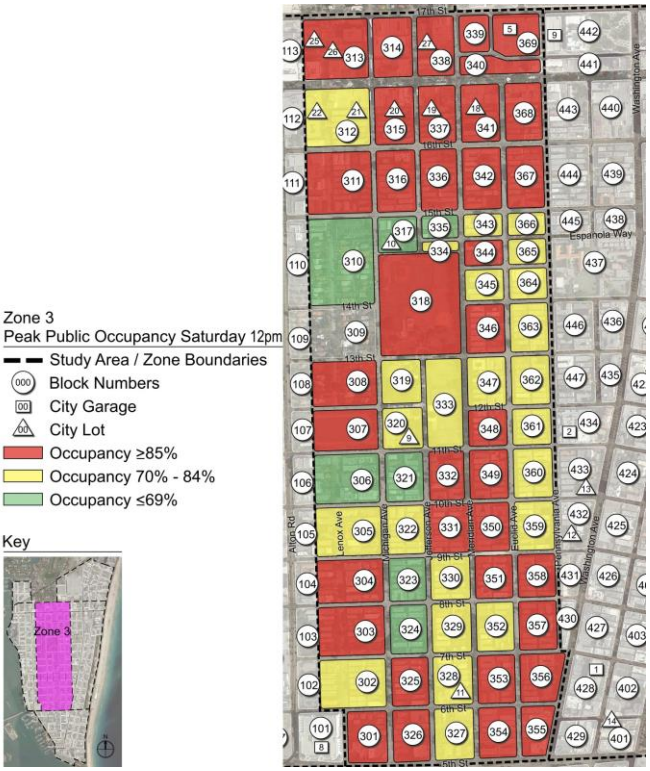
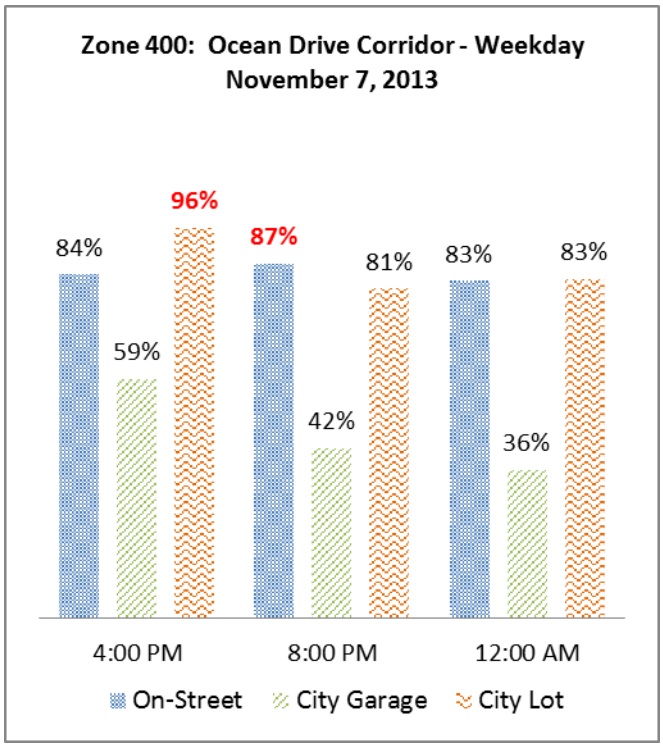
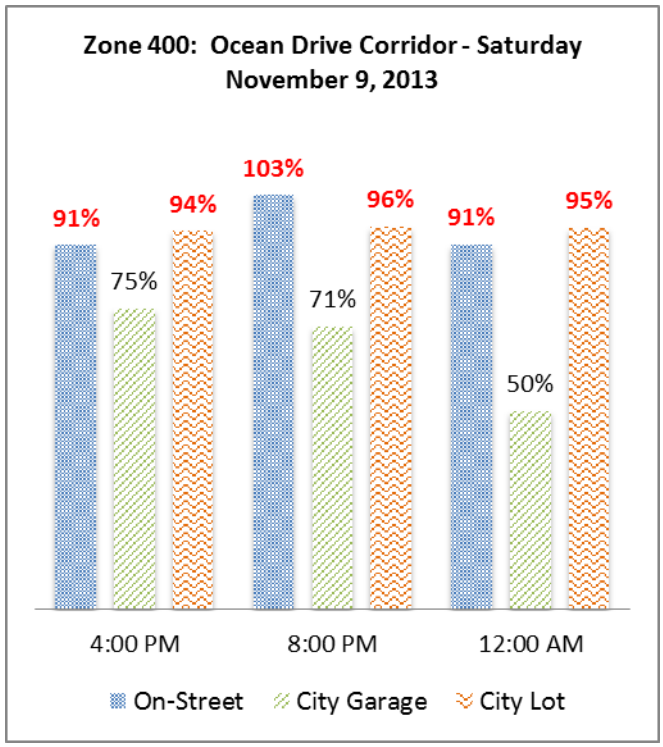


Exhibit 8: Ocean Drive - Weekday and Saturday Parking Occupancy Nov 2013

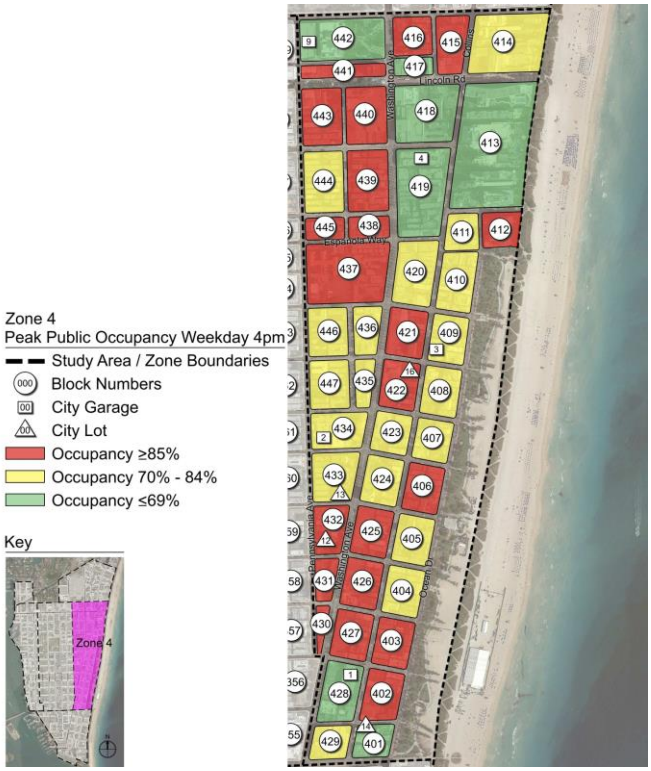
November 2013		PEAK HOUR					PEAK HOUR		
WEEKDAY	**Inventory**	**4:00 PM**	**8:00 PM**	**12:00 AM**	**SATURDAY**	**Inventory**	**4:00 PM**	**8:00 PM**	**12:00 AM**
On-Street	1,616	1,365	1,406	1,339	**On-Street**	1,616	1,469	1,671	1,473
Occupancy Rate		*84%*	**87%**	*83%*	*Occupancy Rate*		**91%**	**103%**	**91%**
Unoccupied Spaces		*251*	*210*	*277*	*Unoccupied Spaces*		*147*	*-55*	*143*
Garage	2,424	1,426	1,015	884	**Garage**	2,424	1,820	1,711	1,202
Occupancy Rate		*59%*	*42%*	*36%*	*Occupancy Rate*		*75%*	*71%*	*50%*
Unoccupied Spaces		*998*	*1,409*	*1,540*	*Unoccupied Spaces*		*604*	*713*	*1,222*
Public City Lot	126	121	102	105	**Public City Lot**	126	119	120	120
Occupancy Rate		**96%**	*81%*	*83%*	*Occupancy Rate*		**94%**	**96%**	**95%**
Unoccupied Spaces		*5*	*24*	*21*	*Unoccupied Spaces*		*7*	*6*	*6*
Total	4,166	2,912	2,523	2,328	**Total**	4,166	3,408	3,502	2,795
Occupancy Rate		*70%*	*61%*	*56%*	*Occupancy Rate*		*82%*	*84%*	*67%*
Unoccupied Spaces		*1,254*	*1,643*	*1,838*	*Unoccupied Spaces*		*758*	*664*	*1,371*





*Note: Saturday observation adjusted to account for rain event.

Exhibit 9: Ocean Drive - Weekday and Saturday Peak Occupancy Maps Nov 2013



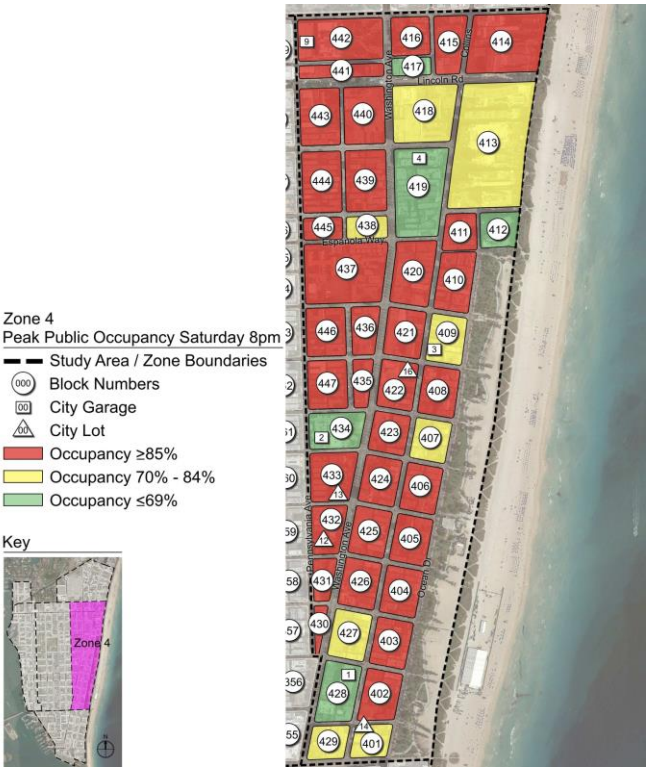
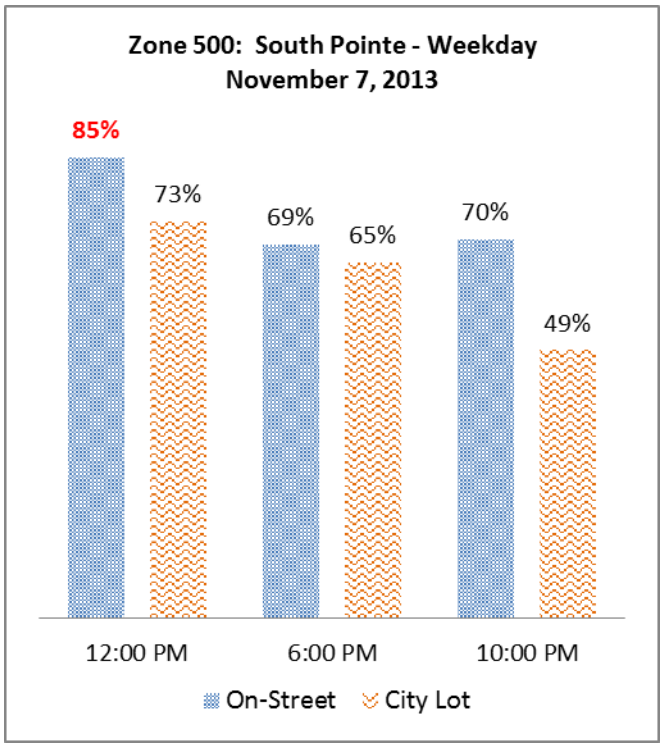


Exhibit 10: South Pointe - Weekday and Saturday Parking Occupancy Nov 2013

November 2013		PEAK HOUR		
WEEKDAY	**Inventory**	**12:00 PM**	**6:00 PM**	**10:00 PM**
On-Street	1,101	936	758	768
Occupancy Rate		**85%**	*69%*	*70%*
Unoccupied Spaces		*165*	*343*	*333*
Garage	0	0	0	0
Occupancy Rate		-	-	-
Unoccupied Spaces		*0*	*0*	*0*
Public City Lot	342	250	224	169
Occupancy Rate		*73%*	*65%*	*49%*
Unoccupied Spaces		*92*	*118*	*173*
Total	1,443	1,186	982	937
Occupancy Rate		*82%*	*68%*	*65%*
Unoccupied Spaces		*257*	*461*	*506*

		PEAK HOUR		
SATURDAY	**Inventory**	**12:00 PM**	**6:00 PM**	**10:00 PM**
On-Street	1,101	816	642	834
Occupancy Rate		*74%*	*58%*	*76%*
Unoccupied Spaces		*285*	*459*	*267*
Garage	0	0	0	0
Occupancy Rate		-	-	-
Unoccupied Spaces		*0*	*0*	*0*
Public City Lot	342	165	201	140
Occupancy Rate		*48%*	*59%*	*41%*
Unoccupied Spaces		*177*	*141*	*202*
Total	1,443	981	843	974
Occupancy Rate		*68%*	*58%*	*67%*
Unoccupied Spaces		*462*	*600*	*469*



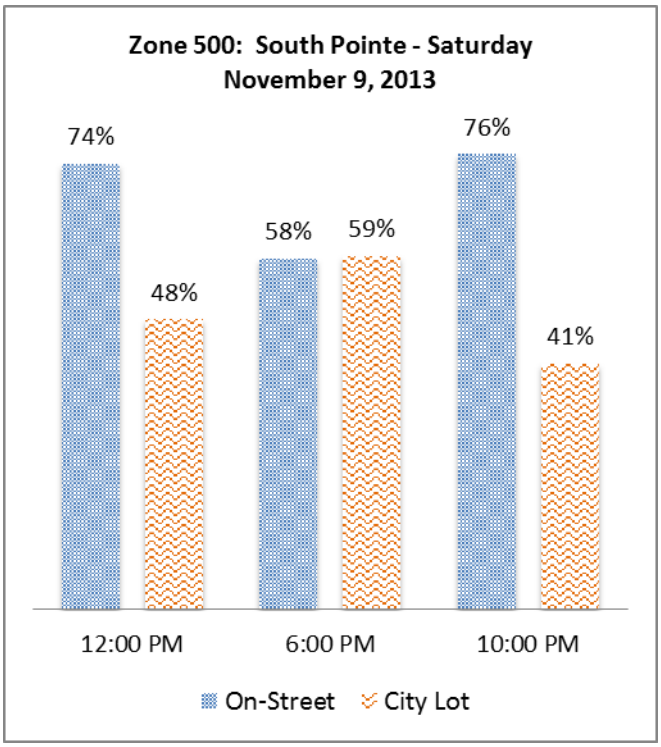


Exhibit 11: South Pointe - Weekday and Saturday Peak Occupancy Maps Nov 2013

Zone 5
Peak Public Occupancy Weekday 12pm

Key

- Study Area / Zone Boundaries
- (000) Block Numbers
- [00] City Garage
- 00 City Lot
- Occupancy ≥85%
- Occupancy 70% - 84%
- Occupancy ≤69%

Zone 5
Peak Public Occupancy Saturday 12pm

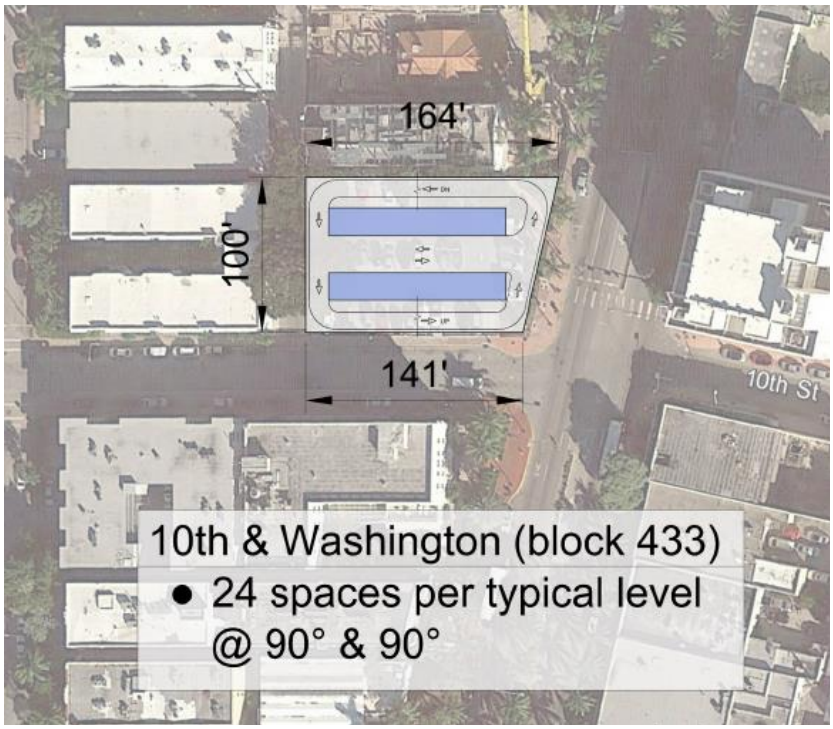
Key

- Study Area / Zone Boundaries
- (000) Block Numbers
- [00] City Garage
- 00 City Lot
- Occupancy ≥85%
- Occupancy 70% - 84%
- Occupancy ≤69%

OPPORTUNITIES FOR ADDING PARKING

All Zones experianced parking demand above the level that users would experience difficulty in finding parking. General areas with the highest and most consistant demand were Zone 3, the Flamingo Park/Residential Core just south of 17th Street and Zone 4, Ocean Drive Corridor. Of these, two sites in the Ocean Drive Corridor were evaluated for adding parking, Miami Beach Parking Lot P13 at 10th and Washington and Miami Beach Lot P16 at 13th and Collins.

Exhibit 12: MB Lot P13



Existing Lot:

30 Spaces
Two-Bay Angled Parking

Evaluation:

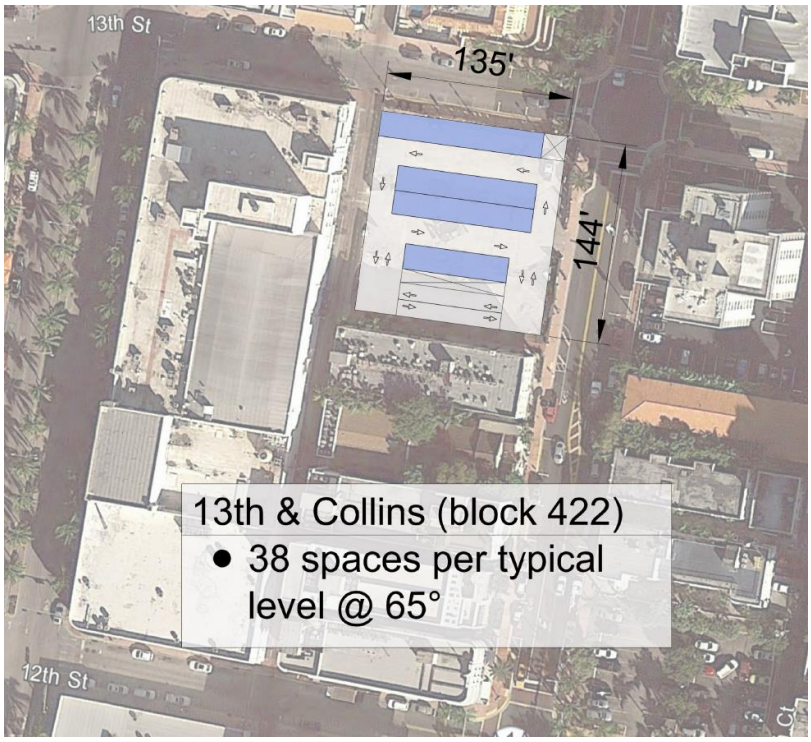
The conceptual drawing shows a one bay parking area accessed by two one-way non-parking ramps. The ramp slope is estimated at 10%.

24± spaces could potentially be located on a typical level.

Assuming a three level structure, 90± spaces could potentially be accommodated with parking at grade and three elevated levels.

Source: Walker Parking Consultants

Exhibit 13: MB Lot P16



Existing Lot:

55 Spaces

Three-Bay Angled Parking, with one bay for the parking ramp.

Evaluation:

Conceptually, this site could accommodate a structure with 38± spaces per typical level.

Assuming the ground level plus three elevated levels, roughly 150± spaces could potentially be located on this site with a parking structure.

Source: Walker Parking Consultants

PARKING MANAGEMENT STRATEGIES

Adding parking capacity in high demand areas can assist the City by giving more options to the public and to improve revenue opportunities. Beyond adding capacity, the following management strategies are recommended for consideration for South Beach.

REVIEW AND ADJUST RESIDENTIAL PARKING PERMIT PROGRAM

There are several residential permit areas in South Beach with several variations on the restrictions. Consider each area and adjust based on the area and need. The following options could be implemented if not already in effect:

- Expanding residential parking permit hours to 24 hours per day, seven days a week.
- Adding time limit restrictions to residential parking permit zones during periods when the residential parking restrictions are not in effect, but allowing residential permit holders exception to posted time limits.
- Adding paid parking in residential areas for use when parking is not restricted to residents.

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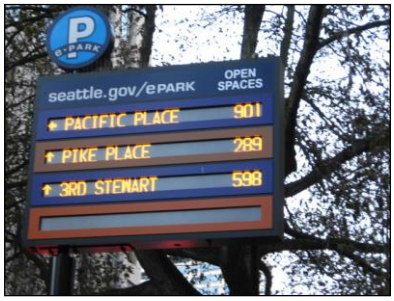
INCORPORATE DYNAMIC WAYFINDING FOR PARKING

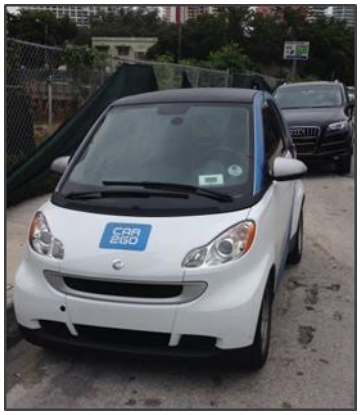


Provide enhanced wayfinding with dynamic real-time parking availability signage to direct patrons to the available off-street parking. Several cities provide this information along the roadways and more are considering implementing. A few cities with this type of dynamic wayfinding signage include:

- Seattle, WA
- Charlotte, NC
- San Jose, CA
- Milwaukee, WI
- St Paul, MN

Availability information is already provided on the Cities parking app. This data should be sent out to dynamic signage at key locations to assist all drivers as they look for available parking. Dynamic signage can be augmented with static signage to provide directions to the off-street parking. All signage should incorporate branding to further assist patrons in identifying parking opportunities.

ADDING CAR SHARING FOR RESIDENTS



Car sharing can reduce parking demand by providing a network of privately owned vehicles that are rented by the hour or day to registered users. Costs for using a vehicle include all typical ownership costs, including gas and insurance. By having a car share service available, participants can have use of a vehicle when needed without having to actually own a vehicle. Studies and surveys indicate each car share vehicle in service can be used by 6 to 10 households, thus reducing parking and traffic congestion where successfully implemented.

- *2005 Transportation Research Board reported 21 percent of car share members gave up a vehicle after joining.*

- *2006 survey by Flexcar and Zipcar in Washington DC indicated 30 percent of car share members gave up a vehicle after joining and 61 percent postponed purchasing another vehicle.*

The City of Miami offers car sharing through Car2Go. For more information on their program see the following website. http://miami.car2go.com/

Given the high density of residents, cost of vehicle ownership, Miami Beach should consider adding this or similar service.

PRICING ADJUSTMENTS

The established parking rates for City public parking varies based on type and location. The following provides a summary of the rates at the time of this report:

- On-street parking in South Beach is $1.75 per hour;
- Off-street parking at City facilities is generally $1.00 per hour during non-events;
- Off-street event parking is set at $15.00 (flat fee); and
- Enrolled residents using parking app park at a discount of $1.00 per hour.

We recommend parking fees for City assets be monitored and adjusted to encourage turnover and move patrons from on-street to off-street parking options. Our observations found several on-street areas where occupancy levels reached and exceeded 90 - 95 percent. Based on our observations, we recommend the City consider the following pricing strategies:

- Increase on-street parking rates currently set at $1.75 per hour to up to $3.00 per hour in increments of $0.50 to $1.00 per hour or if results are wanted sooner, go the full increase at one time, with the goal of reaching occupancy levels of 85 to 90 percent for on-street parking;
- Increase off-street parking rates for off-street parking areas to a level that is slightly lower than the on-street rate, up to $2.00 per hour;
- Continue to survey parking occupancy and rates with the goal of balancing parking use and encouraging the use of off-street parking areas;
- Utilize additional revenues to increase parking capacity in those areas that would benefit the most; and
- City may elect to continue to provide the same parking discount for registered residents when payment is made using the parking app to limit the impact to non-residents.

Our recommendations are based on our observations and industry best practices. Pricing should be used as a management tool and continually monitored for its effectiveness. We recommend gradual adjustments to achieve the desired results, although implementing one large rate adjustment can result in a more immediate impact. If the increase does not provide satisfactory results, they may need to be tweaked further in the future.

MIDDLE BEACH - SUPPLIMENTAL REPORT

WALKER
PARKING CONSULTANTS

SEPTEMBER 4, 2015 PROJECT # 15-1988.00

INTRODUCTION

The purpose of this supplementary report is to provide a summary of the findings for the Middle Beach parking study, including the 41st Street Corridor considering only the City owned publicly available parking assets.

All Private Parking is excluded from this report.

STUDY AREA

The Middle Beach study area generally follows Collins Avenue starting at 23rd Street to the south to 63rd Street to the north. The 41st Street Corridor runs east to west, one block to the north and south of 41st Street from Indian Creek Road to Alton Road.

The map on the right provides an overview of the full study area. Each block is assigned a unique three digit number to allow detailed analysis of the area.

PARKING INVENTORY

A total of 2,928± City owned parking spaces were inventoried within the study area. Total parking is roughly split in half between the north-south Middle Beach area and the 41st Street Corridor. The Middle Beach area has several surface lots but no City owned garages while the 41st Street Corridor has one large City owned parking garage.

The following Exhibit provides a summary of the City owned parking inventory.

Exhibit 14: Summary of Public City Parking Inventory

Area	On-Street	City Garage	City Lot	Total:
Middle Beach	668	-	771	1,439
41st Street Corridor	377	620	492	1,489
Totals:	1,045	620	1,263	2,928
by %	35.7%	21.2%	43.1%	

Source: Walker Parking Consultants

OBSERVED CONDITIONS

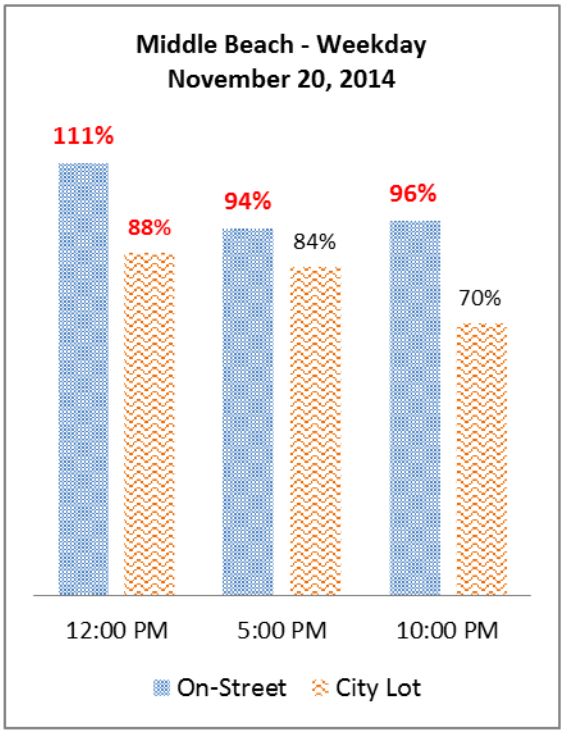
Parking occupancy for weekday and weekend periods is summarized by type for each area on the following pages. Parking occupancy above 85 – 90 percent is generally perceived as difficult to find or problematic. Even when overall parking occupancy is below this level as a whole, parking can be difficult to find within individual blocks or areas.

To assist in identifying the high occupancy areas, when occupancy reaches or exceeds 85% red is used to bring attention to the area.

Exhibit 15: Middle Beach Weekday and Saturday Parking Occupancy Nov 2013

November 2014		PEAK HOUR		
WEEKDAY	**Inventory**	**12:00 PM**	**5:00 PM**	**10:00 PM**
On-Street	668	741	630	643
Occupancy Rate		**111%**	**94%**	**96%**
Unoccupied Spaces		*-73*	*38*	*25*
Garage	0	0	0	0
Occupancy Rate		-	-	-
Unoccupied Spaces		-	-	-
Public City Lot	771	677	650	539
Occupancy Rate		*88%*	*84%*	*70%*
Unoccupied Spaces		*94*	*121*	*232*
Total	1,439	1,418	1,280	1,182
Occupancy Rate		**99%**	**89%**	*82%*
Unoccupied Spaces		*21*	*159*	*257*

			PEAK HOUR	
SATURDAY	**Inventory**	**10:00 AM**	**4:00 PM**	**10:00 PM**
On-Street	668	709	661	730
Occupancy Rate		**106%**	**99%**	**109%**
Unoccupied Spaces		*-41*	*7*	*-62*
Garage	0	0	0	0
Occupancy Rate		-	-	-
Unoccupied Spaces		-	-	-
Public City Lot	771	472	410	464
Occupancy Rate		*61%*	*53%*	*60%*
Unoccupied Spaces		*299*	*361*	*307*
Total	1,439	1,181	1,071	1,194
Occupancy Rate		*82%*	*74%*	*83%*
Unoccupied Spaces		*258*	*368*	*245*



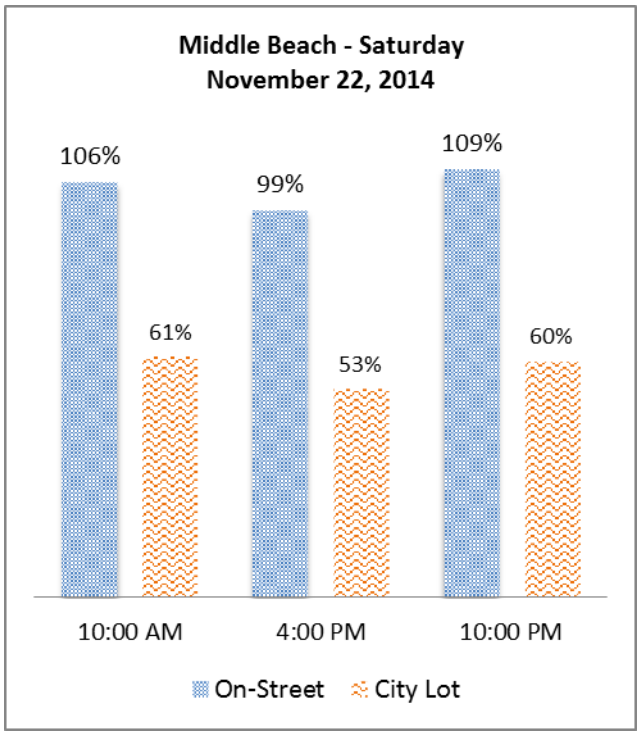
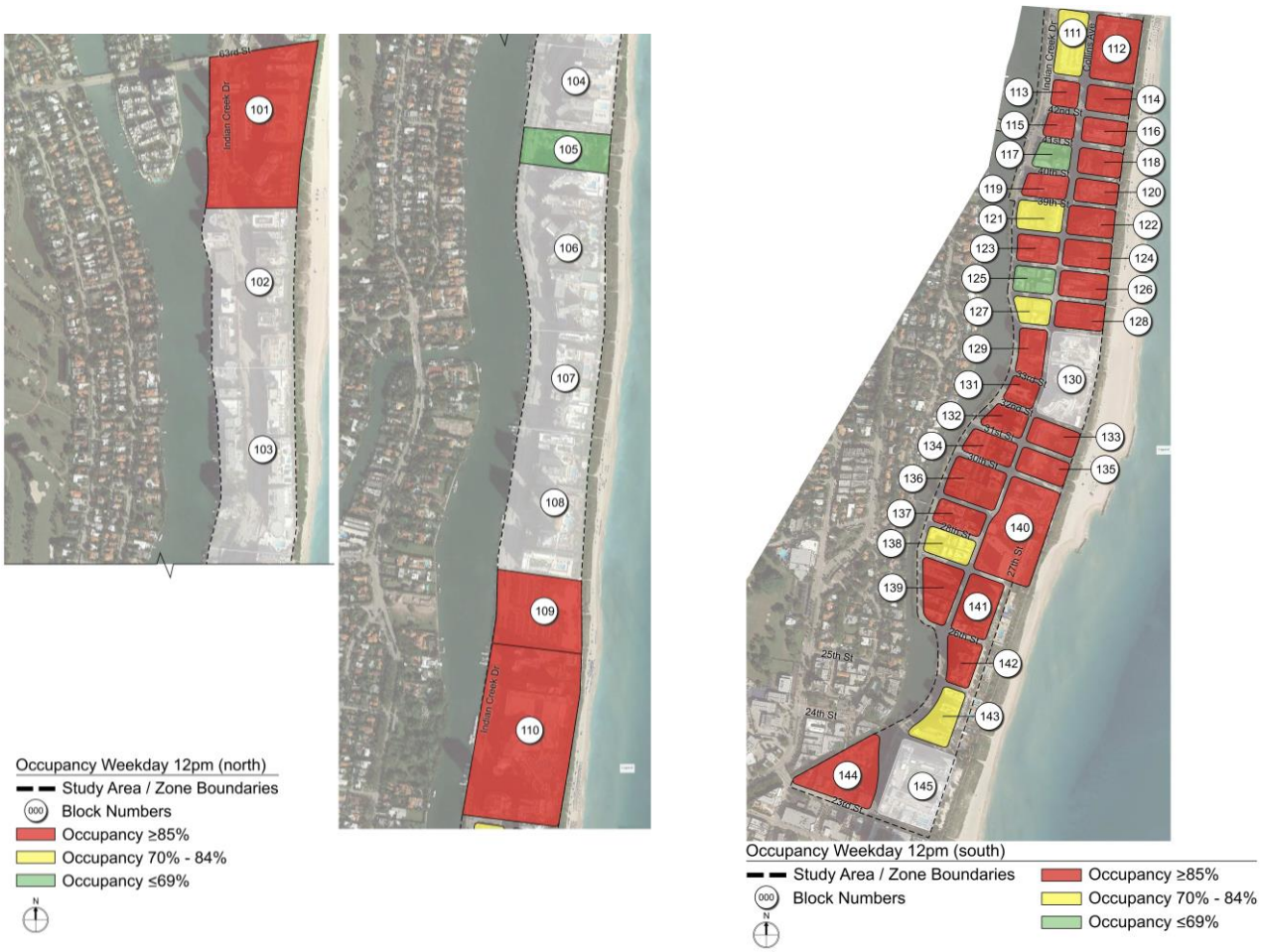


Exhibit 16: Middle Beach Weekday Peak Occupancy Maps Nov 2013



Note: Maps flow from north to south, starting at the far left.

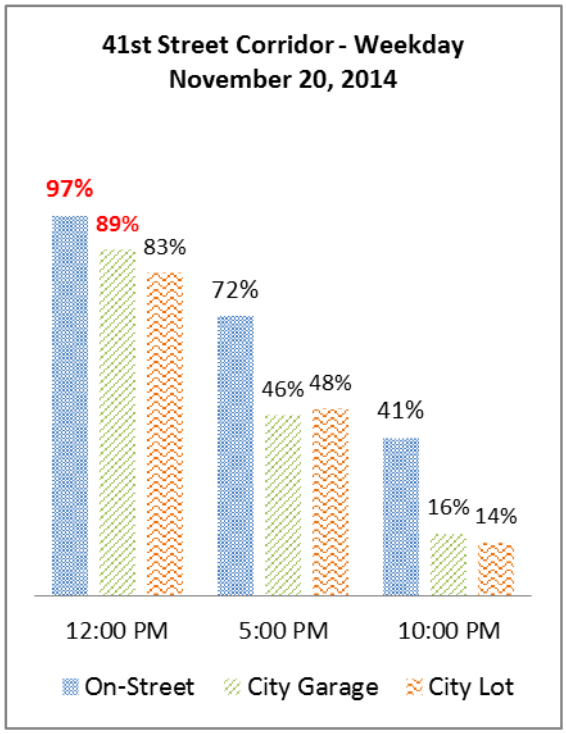
Exhibit 17: Middle Beach Saturday Peak Occupancy Maps Nov 2013

Note: Maps flow from north to south, starting at the far left.

Exhibit 18: 41st Street Corridor Weekday and Saturday Parking Occupancy Nov 2013

November 2014		PEAK HOUR		
WEEKDAY	**Inventory**	**12:00 PM**	**5:00 PM**	**10:00 PM**
On-Street	377	367	270	153
Occupancy Rate		**97%**	*72%*	*41%*
Unoccupied Spaces		*10*	*107*	*224*
Garage	620	550	288	100
Occupancy Rate		**89%**	*46%*	*16%*
Unoccupied Spaces		*70*	*332*	*520*
Public City Lot	492	408	236	68
Occupancy Rate		*83%*	*48%*	*14%*
Unoccupied Spaces		*84*	*256*	*424*
Total	1,489	1,325	794	321
Occupancy Rate		**89%**	*53%*	*22%*
Unoccupied Spaces		*164*	*695*	*1,168*

		PEAK HOUR		
SATURDAY	**Inventory**	**9:00 AM**	**3:00 PM**	**7:00 PM**
On-Street	377	224	245	236
Occupancy Rate		*59%*	*65%*	*63%*
Unoccupied Spaces		*153*	*132*	*141*
Garage	620	230	250	240
Occupancy Rate		*37%*	*40%*	*39%*
Unoccupied Spaces		*390*	*370*	*380*
Public City Lot	492	138	167	161
Occupancy Rate		*28%*	*34%*	*33%*
Unoccupied Spaces		*354*	*325*	*331*
Total	1,489	592	662	637
Occupancy Rate		*40%*	*44%*	*43%*
Unoccupied Spaces		*897*	*827*	*852*



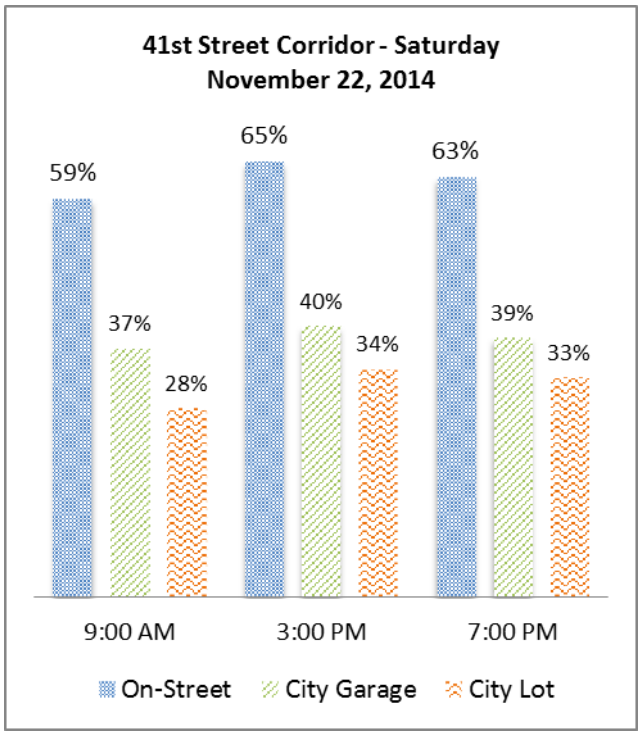
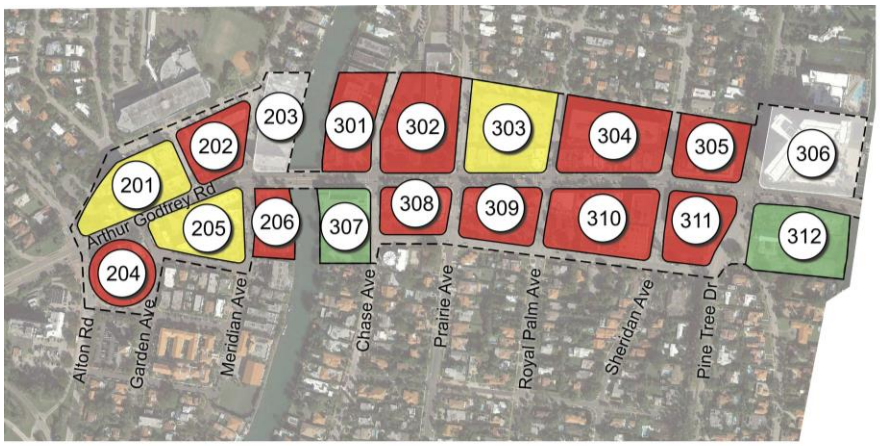


Exhibit 19: 41st Street Corridor Weekday and Saturday Peak Occupancy Map Nov 2013



Occupancy Weekday 12pm (41st St Corridor)

- Study Area / Zone Boundaries
- 000 Block Numbers
- Occupancy ≥85%
- Occupancy 70% - 84%
- Occupancy ≤69%

N

Occupancy Saturday 3pm (41st St Corridor)

- Study Area / Zone Boundaries
- 000 Block Numbers
- Occupancy ≥85%
- Occupancy 70% - 84%
- Occupancy ≤69%

N

OPPORTUNITIES TO EXPAND PARKING

The City should consider its options to increase parking supply by adding structured parking on existing surface parking lots. On a conceptual basis our report outlines three potential sites for transforming existing City surface lots into parking structures. Key points considered in our evaluation are existing demand, location, and size of the parcel for an efficient layout.

The sites include the following Miami Beach Surface Lots:

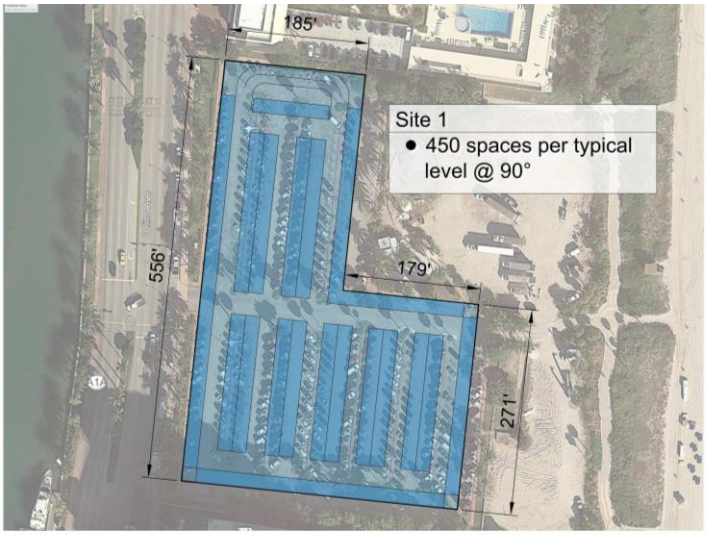
1. Miami Beach Lot 71 (46th and Collins)
2. Miami Beach Lot 63 (42nd and Royal Palm)
3. Miami Beach Lot 55 (27th and Collins)

The following page provides three conceptual layouts for sizing feasibility purposes only. The typical number of spaces per floor shown will vary for the ground and roof level based on the final design. Other factors impacting the final capacity numbers include:

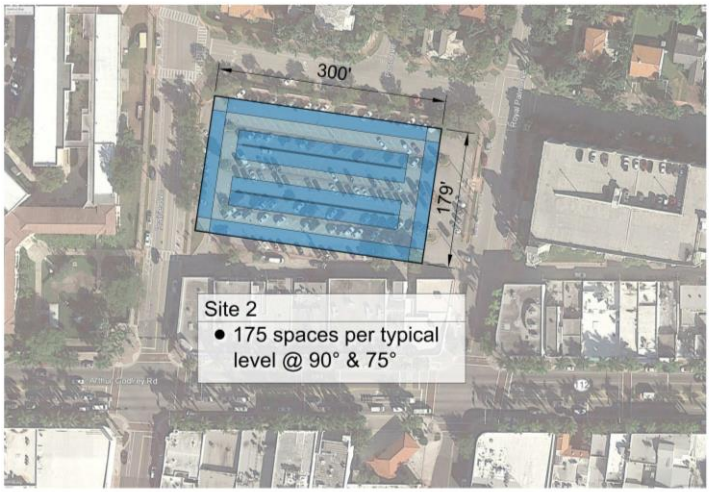
- Commercial space at grade
- Set-back requirements
- Ingress/egress points
- Height restrictions
- Addition of below grade parking
- Displacement of existing parking

Other layout options may be feasible and further developed to determine the overall best solution for the City. We recommend the next steps for evaluation be an in-depth site analysis for any preferred sites, including more detailed design options, sizing, market and preliminary financial analysis.

Exhibit 20: Conceptual Parking Structure Layouts – Middle Beach



Site 1 is located on the MB 71 surface lot located at 46th and Collins Avenue (Indian Beach Park). This is a very large lot with multiple options to consider beyond what is shown when configured as a parking structure.



Site 2 is located on the MB 63 surface lot located at 42nd Street and Royal Palm Avenue along the 41st Street Corridor. This site is considered a potential replacement for the existing 42nd Street garage which is aging and features a somewhat confusing functional design to users unfamiliar with the design. This site may also benefit potential redevelopment of the Roosevelt Theater which is located about a block to the southwest.

Site 3 is located on the MB 55 surface lot located at 27th Street and Collins Avenue. The site can accommodate a two-bay structure and could allow commercial space along Collins Avenue. The total added capacity will depend on the overall height of the structure and if there is commercial space on the ground level.

Miami Middle Beach Parking Options N

Source: Walker Parking Consultants

PARKING MANAGEMENT STRATEGIES

Adding parking capacity in high demand areas can assist the City by giving more options to the public and to improve revenue opportunities. Beyond adding capacity, the following management strategies are recommended for consideration for Middle Beach.

EXPAND RESIDENTIAL PARKING PERMIT PROGRAM

The City of Miami Beach currently provides residential parking zones in several areas of South Beach. Residential parking zones allow the on-street parking located in residential area to be used by legitimate residents located within the zone. Establishing a residential parking zone requires a majority of the local residents within the specific zone to vote and approve the parking zone. Once established, only residents within the area qualify to obtain a residential parking permit. This allows normally unrestricted parking to be reserved for residents and a limited number of guests to ensure non-residents do not park within the residential parking zone during the posted restricted time periods.

INCORPORATE DYNAMIC WAYFINDING FOR PARKING

Provide enhanced wayfinding with dynamic real-time parking availability signage to direct patrons to the available off-street parking. Several cities provide this information along the roadways and more are considering implementing. A few cities with this type of dynamic wayfinding signage include:

- Seattle, WA
- Charlotte, NC
- San Jose, CA
- Milwaukee, WI
- St Paul, MN

Availability information is already provided on the Cities parking app. This data should be sent out to dynamic signage at key locations to assist all drivers as they look for available parking. Dynamic signage can be augmented with static signage to provide directions to the off-street parking. All signage should incorporate branding to further assist patrons in identifying parking opportunities.

PRICING ADJUSTMENTS

The established parking rates for City public parking varies based on type and location. The following provides a summary of the rates in Middle Beach at the time of this report:

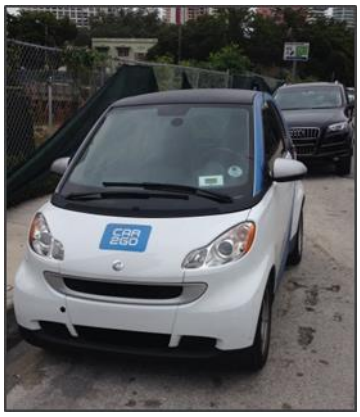
- On-street parking north of 23rd Street is $1.00 per hour;
- Off-street parking at City facilities is generally $1.00 per hour during non-events;
- Off-street event parking is set at $15.00 (flat fee); and

We recommend parking fees for City assets be monitored and adjusted to encourage turnover and move patrons from on-street to off-street parking options. Our observations found several on-street areas where occupancy levels reached and exceeded 90 - 95 percent. Based on our observations, we recommend the City consider the following pricing strategies:

- Extend the current on-street parking rate boundary from 23rd Street northward to the 4700 Block between Collins Avenue and Indian Creek Drive extending to the beach recognizing the high demand of parking extends beyond 23rd Street. This would tie the rate to what is currently charged in South Beach and adjust accordingly if the South Beach rate is increases as recommended, up to $3.00 per hour;
- Increase off-street parking rates for off-street parking areas to a level that is slightly lower than the on-street rate, up to $2.00 per hour;
- Continue to survey parking occupancy and rates with the goal of balancing parking use and encouraging the use of off-street parking areas;
- Utilize additional revenues to increase parking capacity in those areas that would benefit the most;
- Adjust hours that meters are enforced in Middle Beach from current 8:00 am to 6:00 pm to 9:00 am to 3:00 am to better align with activity levels in this area; and
- City may elect to continue to provide the same parking discount for registered residents when payment is made using the parking app to limit the impact to non-residents.

Our recommendations are based on our observations and industry best practices. Pricing should be used as a management tool and continually monitored for its effectiveness. We recommend gradual adjustments to achieve the desired results. If the increase does not provide satisfactory results, may need to be tweaked further in the future.

ADDING CAR SHARING FOR RESIDENTS



Car sharing can reduce parking demand by providing a network of privately owned vehicles that are rented by the hour or day to registered users. Costs for using a vehicle include all typical ownership costs, including gas and insurance. By having a car share service available, participants can have use of a vehicle when needed without having to actually own a vehicle. Studies and surveys indicate each car share vehicle in service can be used by 6 to 10 households, thus reducing parking and traffic congestion where successfully implemented.

- *2005 Transportation Research Board reported 21 percent of car share members gave up a vehicle after joining.*
- *2006 survey by Flexcar and Zipcar in Washington DC indicated 30 percent of car share members gave up a vehicle after joining and 61 percent postponed purchasing another vehicle.*

The City of Miami offers car sharing through Car2Go. For more information on their program see the following website. http://miami.car2go.com/

Given the high density of residents, cost of vehicle ownership, Miami Beach should consider adding this or similar service.

NORTH BEACH – SUPPLEMENTAL REPORT

WALKER
PARKING CONSULTANTS

SEPTEMBER 4, 2015 PROJECT # 15-1988.00

INTRODUCTION

The purpose of this supplementary report is to provide a summary of the findings for the North Beach parking study considering only the City owned publicly available parking.

All Private Parking is excluded from this report.

The study area generally encompassed the area from 63rd Street to the south to 87th Terrace to the north including Biscayne Beach, Normandy Isle, and Normandy Shores.

The entire study area is broken down by uniquely numbered blocks within each sub-area or sections of roadway for single family residential areas.

Town Center

The southern portion of the overall North Beach study area, general south of 73rd Street. (see map lower right)

North Shore

Northern area, generally extending from 73rd Street along the beach and canal.

Biscayne Beach

Residential area directly to the west of the North Shore area.

Normandy Isle

Commercial and residential area to the south of waterway on Normandy Isle.

Normandy Shores

Residential area located on the northern portion of Normandy Isle.

Base Study Area Map
Study Areas
Block Numbers

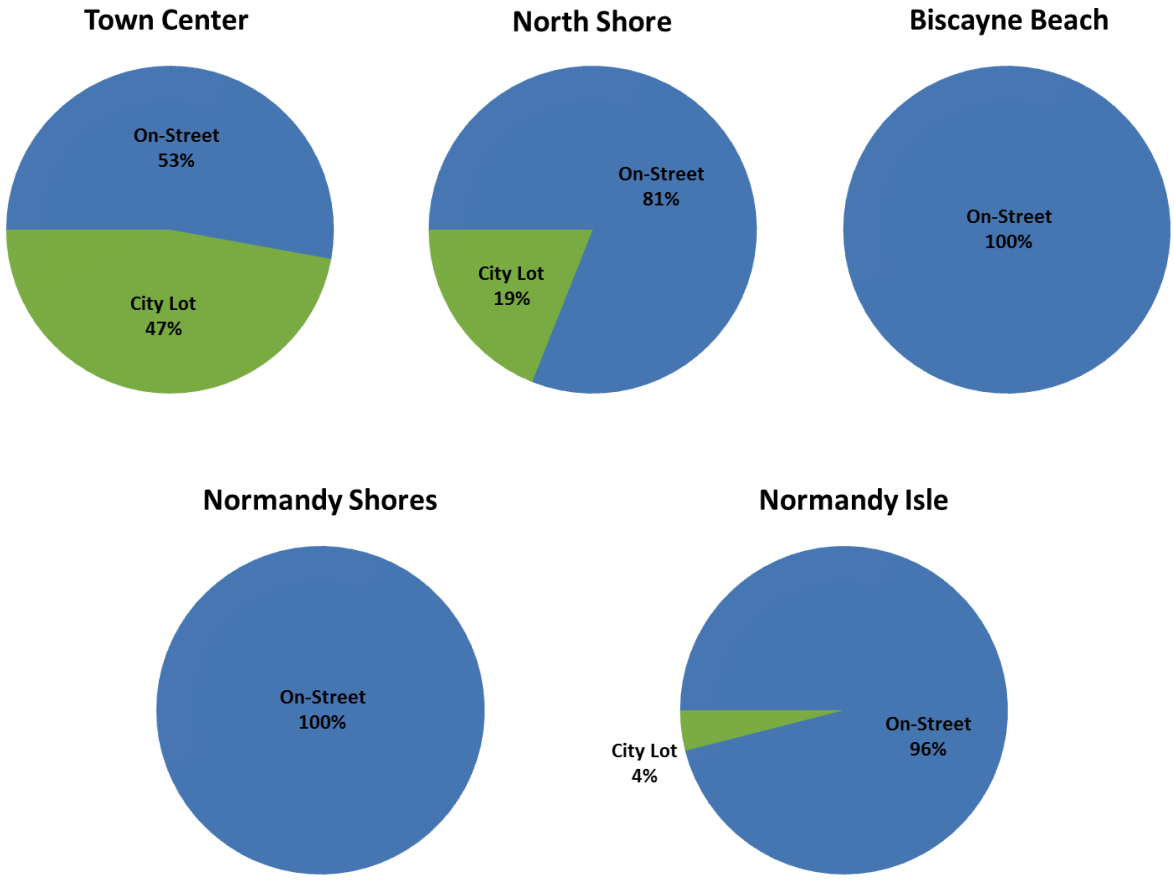
Town Center Area Map

PARKING INVENTORY

A total of 6,945± City owned parking spaces were inventoried within North Beach. On-street parking constitutes the majority of City controlled parking. The only off-street City parking assets are surface parking lots located within three of the distinct areas. The following table provides a summary of the City owned parking inventory.

Exhibit 21: Summary of Public City Parking Inventory

	On-Street	City Lot	City Garage	Total:
Town Center	758	676	-	1,434
North Shore	2,210	518	-	2,728
Biscayne Beach	779	-	-	779
Normandy Shores	167	-	-	167
Normandy Isle	1,764	73	-	1,837
Totals:	5,678	1,267	0	6,945
Percentages	*81.8%*	*18.2%*	*0.0%*	



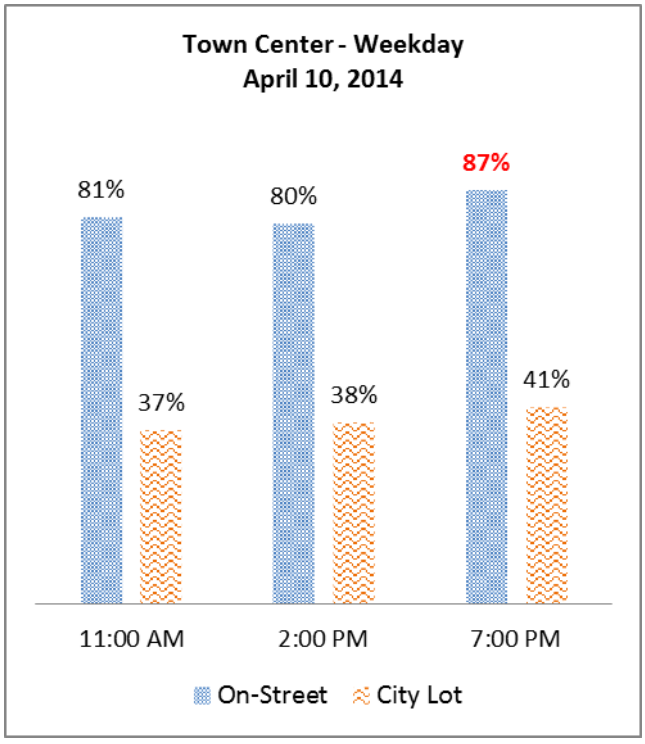
OBSERVED CONDITIONS

Parking occupancy for a Weekday and Saturday are summarized by type for each area within North Beach on the following pages. Parking occupancy rates above 85 percent are generally perceived as difficult to find or problematic. To assist in identifying the high occupancy areas, when occupancy reaches or exceeds 85% red is used to bring attention to the area.

Even when overall parking occupancy is below this level as a whole, parking can be and was found to be difficult to find within individual blocks or areas.

Exhibit 22: Town Center Weekday and Saturday Parking Observations April 2014

April 2014				PEAK HOUR					PEAK HOUR
WEEKDAY	**Inventory**	**11:00 AM**	**2:00 PM**	**7:00 PM**	**SATURDAY**	**Inventory**	**12:00 PM**	**4:00 PM**	**9:00 PM**
On-Street	758	615	605	658	**On-Street**	758	714	702	696
Occupancy Rate		*81%*	*80%*	**87%**	*Occupancy Rate*		**94%**	**93%**	**92%**
Unoccupied Spaces		*143*	*153*	*100*	*Unoccupied Spaces*		*44*	*56*	*62*
Garage	0	0	0	0	**Garage**	0	0	0	0
Occupancy Rate		-	-	-	*Occupancy Rate*		-	-	-
Unoccupied Spaces		*0*	*0*	*0*	*Unoccupied Spaces*		*0*	*0*	*0*
Public City Lot	676	247	258	280	**Public City Lot**	676	395	567	371
Occupancy Rate		*37%*	*38%*	*41%*	*Occupancy Rate*		*58%*	*84%*	*55%*
Unoccupied Spaces		*429*	*418*	*396*	*Unoccupied Spaces*		*281*	*109*	*305*
Total	1,434	862	863	938	**Total**	1,434	1,109	1,269	1,067
Occupancy Rate		*60%*	*60%*	*65%*	*Occupancy Rate*		*77%*	**88%**	*74%*
Unoccupied Spaces		*572*	*571*	*496*	*Unoccupied Spaces*		*325*	*165*	*367*



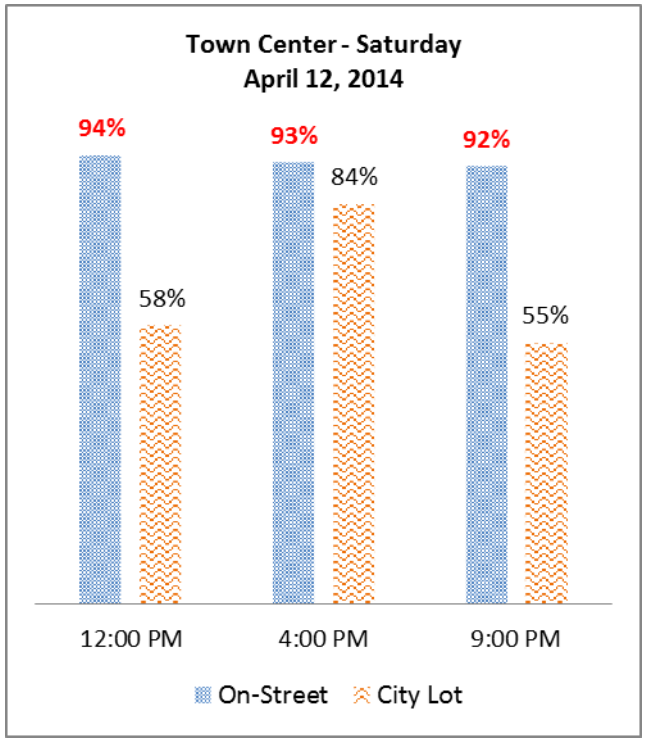
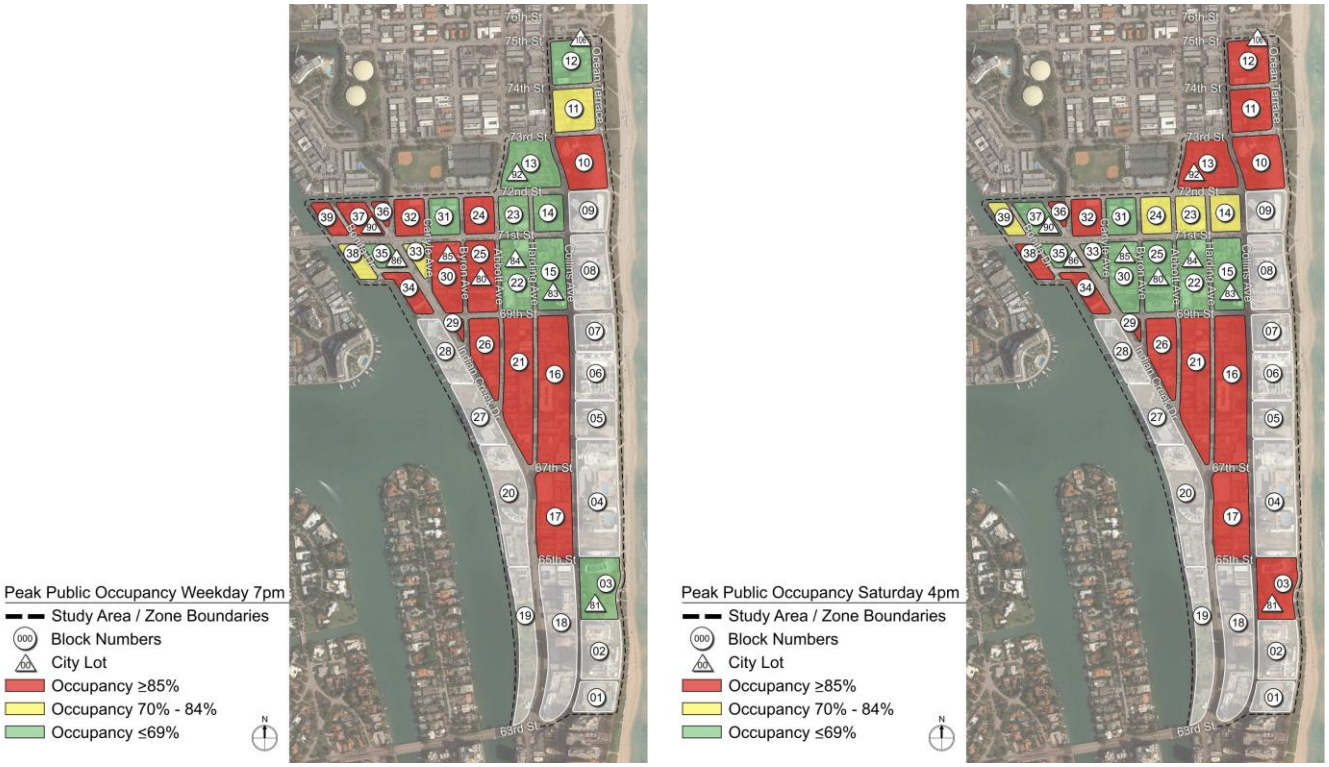


Exhibit 23: Town Center Weekday and Saturday Peak Occupancy Maps April 2014



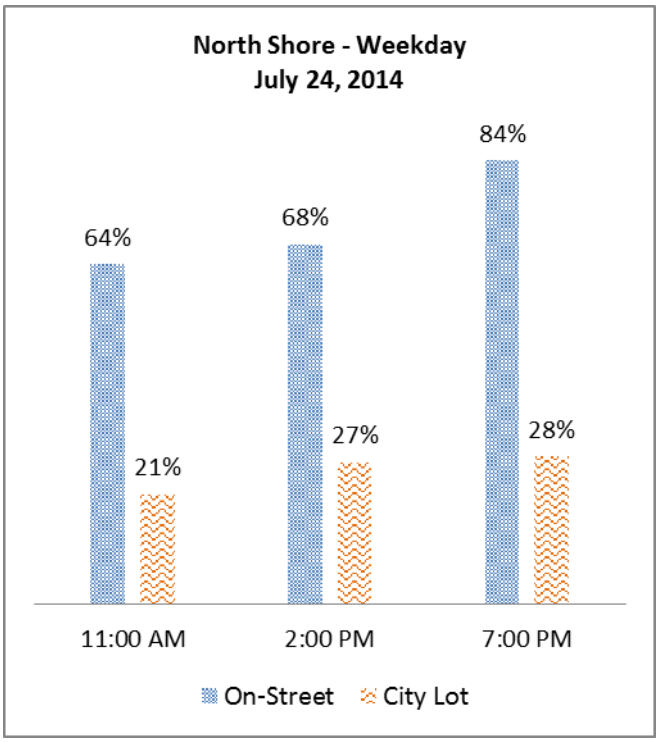
Source: Walker Parking Consultants

Several areas within the Town Center area have no City provided parking. Saturday was the overall peak for this area, with much of the demand focused in residential areas and areas closer to the beach.

Exhibit 24: North Shore Weekday and Saturday Parking Observations July 2014

July 2014				PEAK HOUR
WEEKDAY	**Inventory**	**11:00 AM**	**2:00 PM**	**7:00 PM**
On-Street	2,210	1,422	1,505	1,856
Occupancy Rate		*64%*	*68%*	*84%*
Unoccupied Spaces		*788*	*705*	*354*
Garage	0	0	0	0
Occupancy Rate		-	-	-
Unoccupied Spaces		*0*	*0*	*0*
City Lot	518	108	139	145
Occupancy Rate		*21%*	*27%*	*28%*
Unoccupied Spaces		*410*	*379*	*373*
Total	2,728	1,530	1,644	2,001
Occupancy Rate		*56%*	*60%*	*73%*
Unoccupied Spaces		*1,198*	*1,084*	*727*

				PEAK HOUR
SATURDAY	**Inventory**	**12:00 PM**	**4:00 PM**	**9:00 PM**
On-Street	2,210	1,886	2,025	2,044
Occupancy Rate		**85%**	**92%**	**92%**
Unoccupied Spaces		*324*	*185*	*166*
Garage	0	0	0	0
Occupancy Rate		-	-	-
Unoccupied Spaces		*0*	*0*	*0*
City Lot	518	239	333	188
Occupancy Rate		*46%*	*64%*	*36%*
Unoccupied Spaces		*279*	*185*	*330*
Total	2,728	2,125	2,358	2,232
Occupancy Rate		*78%*	**86%**	*82%*
Unoccupied Spaces		*603*	*370*	*496*



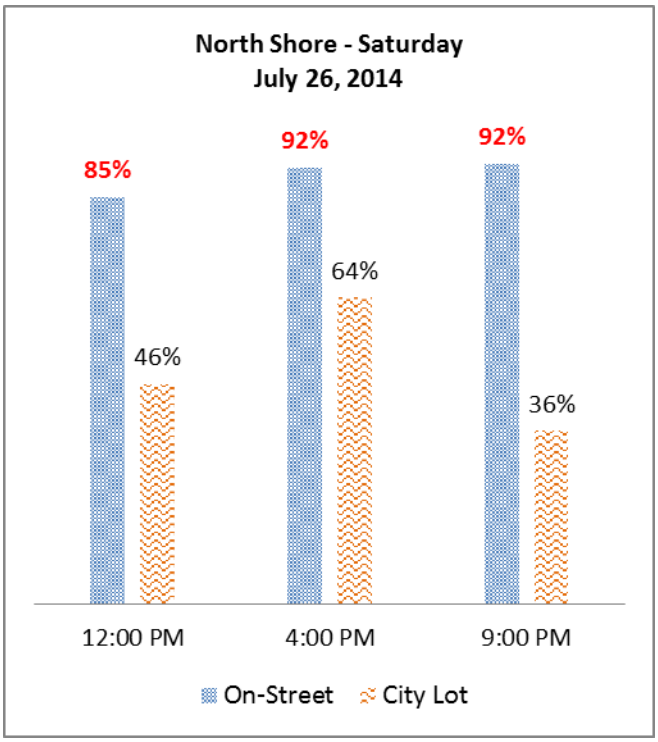
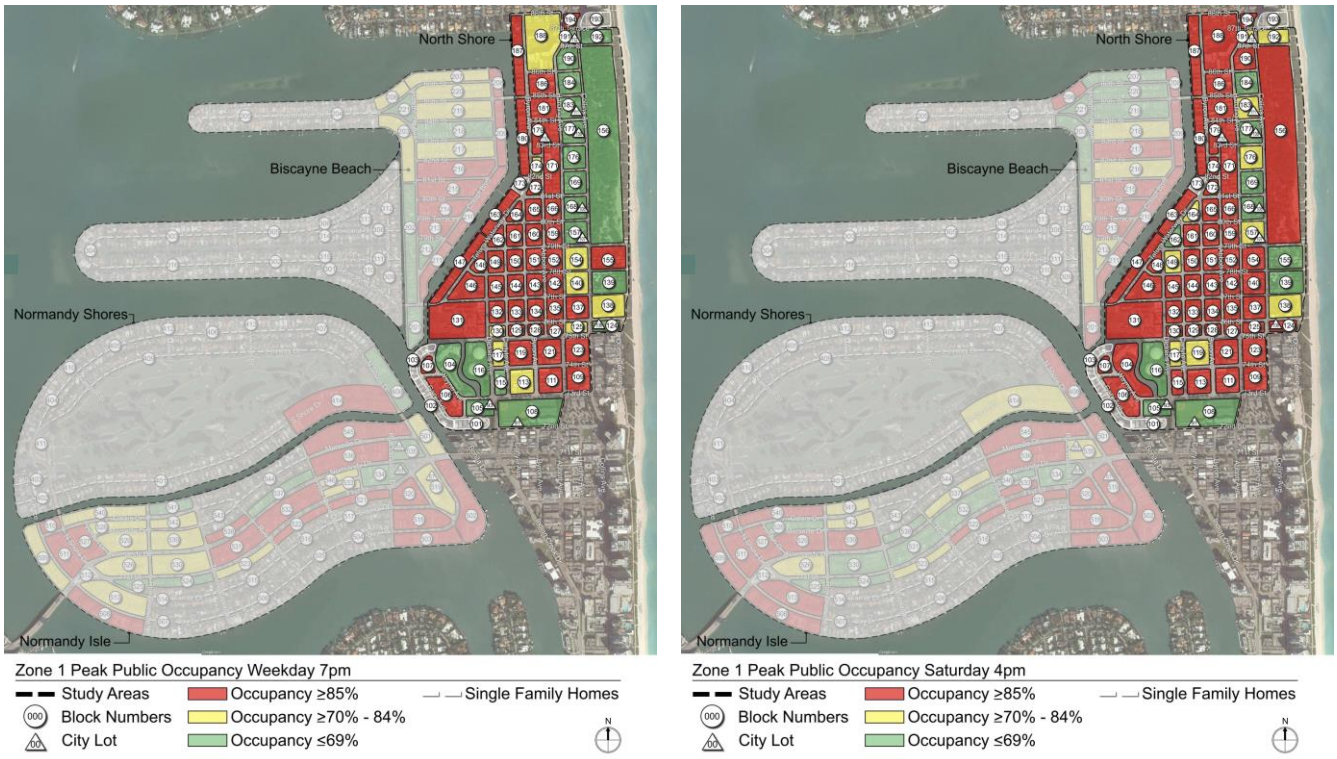


Exhibit 25: North Shore Weekday and Saturday Peak Occupancy Maps July 2014



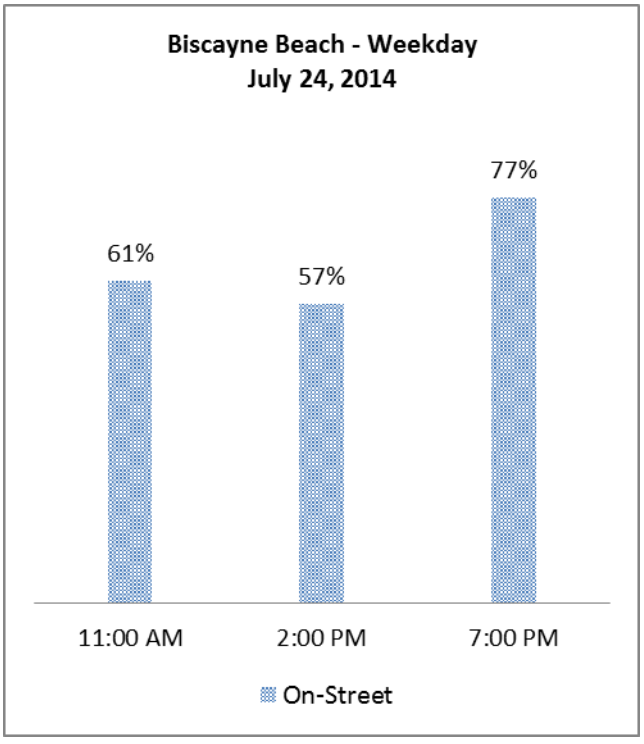
Source: Walker Parking Consultants

On-Street parking experienced high demand through-out the area as evident in the heat maps above. City surface lots had available spaces throughout the observation periods.

Exhibit 26: Biscayne Beach Weekday and Saturday Parking Observations July 2014

July 2014				PEAK HOUR
WEEKDAY	**Inventory**	**11:00 AM**	**2:00 PM**	**7:00 PM**
On-Street	779	475	442	599
Occupancy Rate		*61%*	*57%*	*77%*
Unoccupied Spaces		*304*	*337*	*180*
Garage	0	0	0	0
Occupancy Rate		-	-	-
Unoccupied Spaces		*0*	*0*	*0*
Public City Lot	0	0	0	0
Occupancy Rate		-	-	-
Unoccupied Spaces		*0*	*0*	*0*
Total	779	475	442	599
Occupancy Rate		*61%*	*57%*	*77%*
Unoccupied Spaces		*304*	*337*	*180*

				PEAK HOUR
SATURDAY	**Inventory**	**12:00 PM**	**4:00 PM**	**9:00 PM**
On-Street	779	548	589	614
Occupancy Rate		*70%*	*76%*	*79%*
Unoccupied Spaces		*231*	*190*	*165*
Garage	0	0	0	0
Occupancy Rate		-	-	-
Unoccupied Spaces		*0*	*0*	*0*
Public City Lot	0	0	0	0
Occupancy Rate		-	-	-
Unoccupied Spaces		*0*	*0*	*0*
Total	779	548	589	614
Occupancy Rate		*70%*	*76%*	*79%*
Unoccupied Spaces		*231*	*190*	*165*



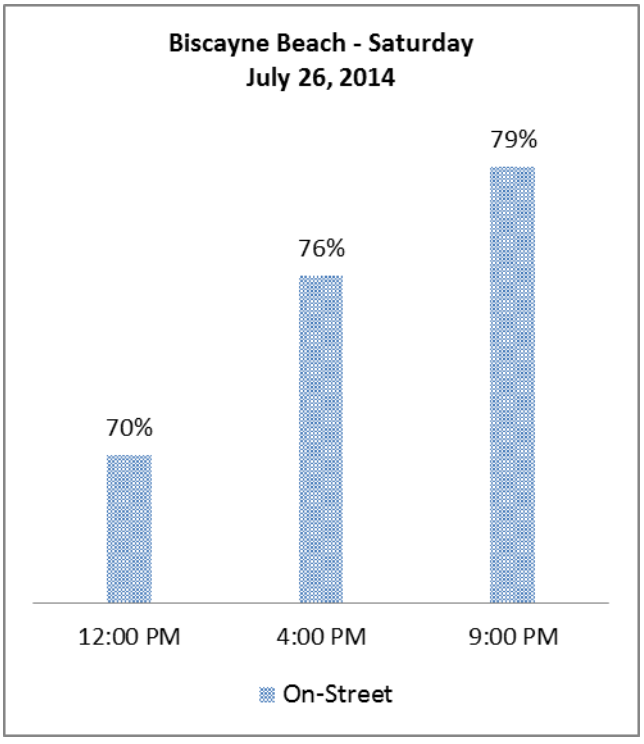
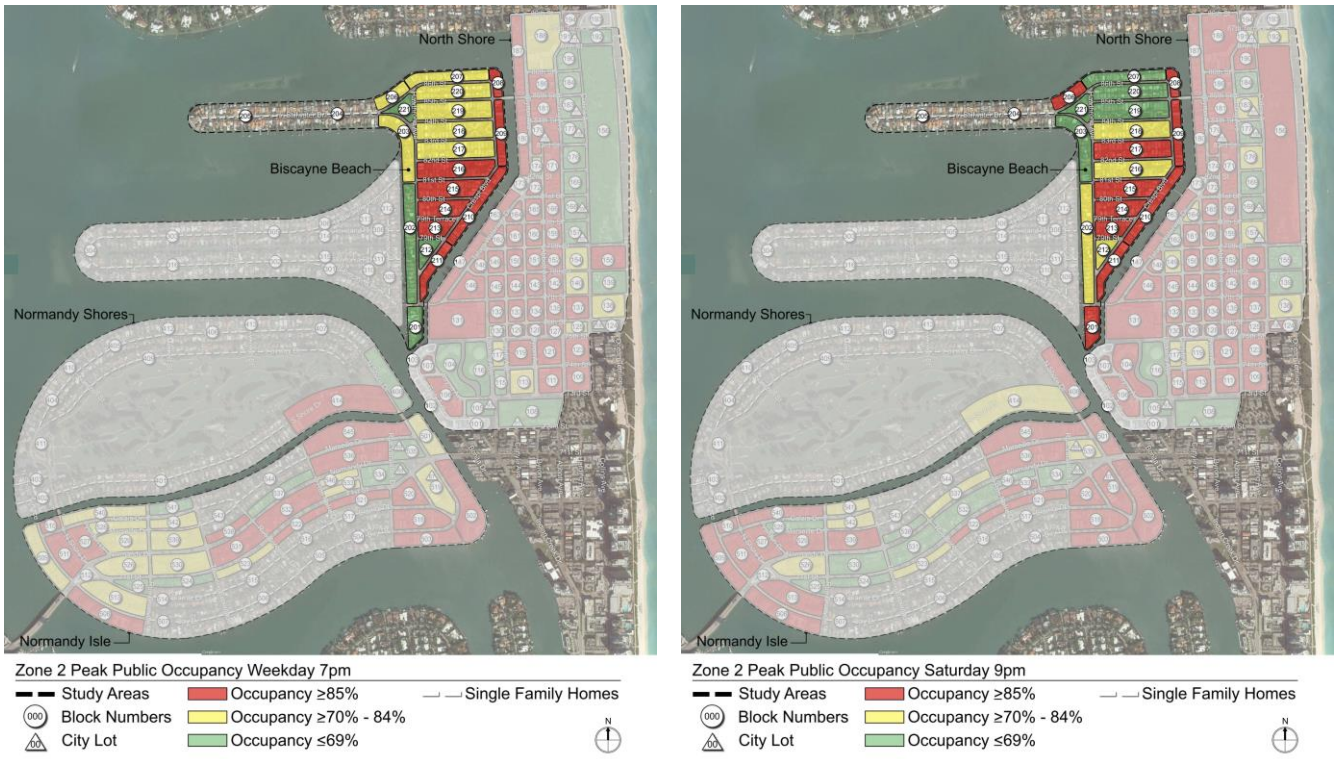


Exhibit 27: Biscayne Beach Weekday and Saturday Peak Occupancy Maps July 2014



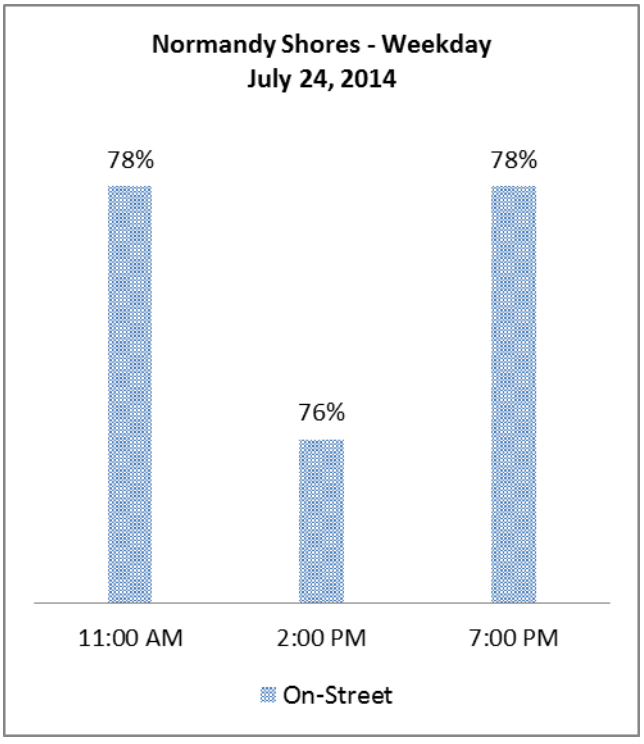
Source: Walker Parking Consultants

The only City parking asset within the Biscayne Beach area is on-street parking. While overall peak observed conditions did not indicate shortage of parking, several blocks experienced high occupancy as notable in the heat maps above. Peak conditions were observed during the later counts on both a weekday and Saturday. Given that the area is dense residential, occupancy would likely be higher later in the evening.

The closest City lots are located between Harding and Collins, which had evening availability during out observations. This may be an option for residents, but it does require payment for parking if the vehicle overstays the next morning.

Exhibit 28: Normandy Shores Weekday and Saturday Parking Observations July 2014

July 2014		PEAK HOUR		PEAK HOUR				
WEEKDAY	**Inventory**	**11:00 AM**	**2:00 PM**	**7:00 PM**	**SATURDAY**	**Inventory**	**12:00 PM**	**4:00 PM**	**9:00 PM**
On-Street	167	131	127	131	**On-Street**	167	127	135	140
Occupancy Rate		*78%*	*76%*	*78%*	*Occupancy Rate*		*76%*	*81%*	*84%*
Unoccupied Spaces		*36*	*40*	*36*	*Unoccupied Spaces*		*40*	*32*	*27*
Garage	0	0	0	0	**Garage**	0	0	0	0
Occupancy Rate		-	-	-	*Occupancy Rate*		-	-	-
Unoccupied Spaces		*0*	*0*	*0*	*Unoccupied Spaces*		*0*	*0*	*0*
Public City Lot	0	0	0	0	**Public City Lot**	0	0	0	0
Occupancy Rate		-	-	-	*Occupancy Rate*		-	-	-
Unoccupied Spaces		*0*	*0*	*0*	*Unoccupied Spaces*		*0*	*0*	*0*
Total	167	131	127	131	**Total**	167	127	135	140
Occupancy Rate		*78%*	*76%*	*78%*	*Occupancy Rate*		*76%*	*81%*	*84%*
Unoccupied Spaces		*36*	*40*	*36*	*Unoccupied Spaces*		*40*	*32*	*27*



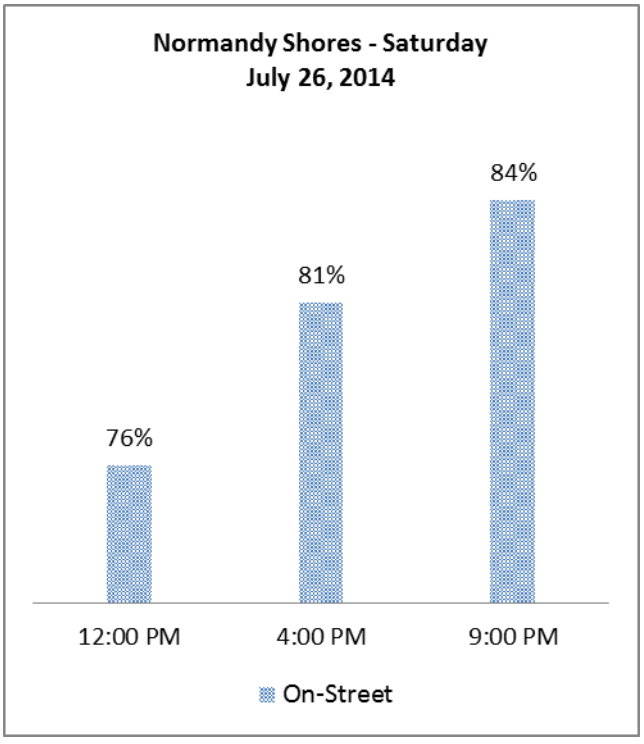
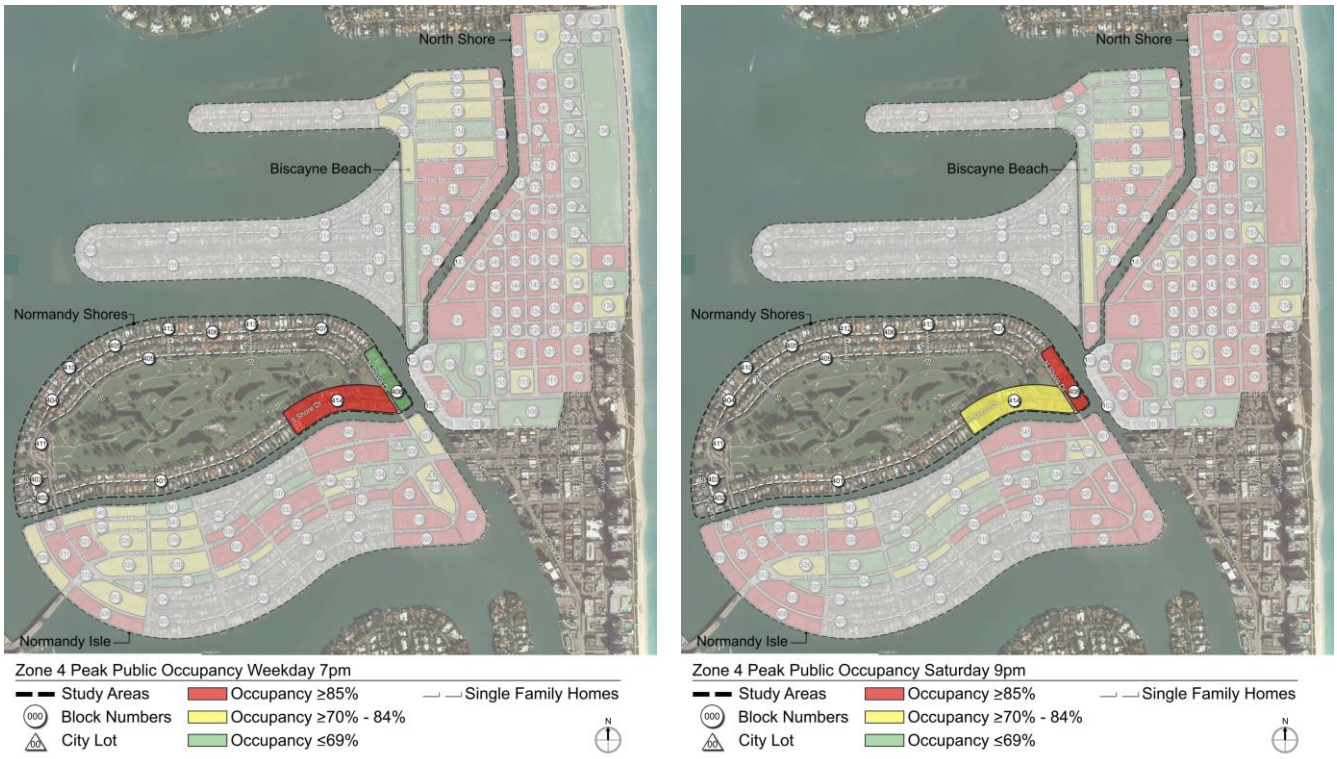


Exhibit 29: Normandy Shores Weekday and Saturday Peak Occupancy Maps July 2014



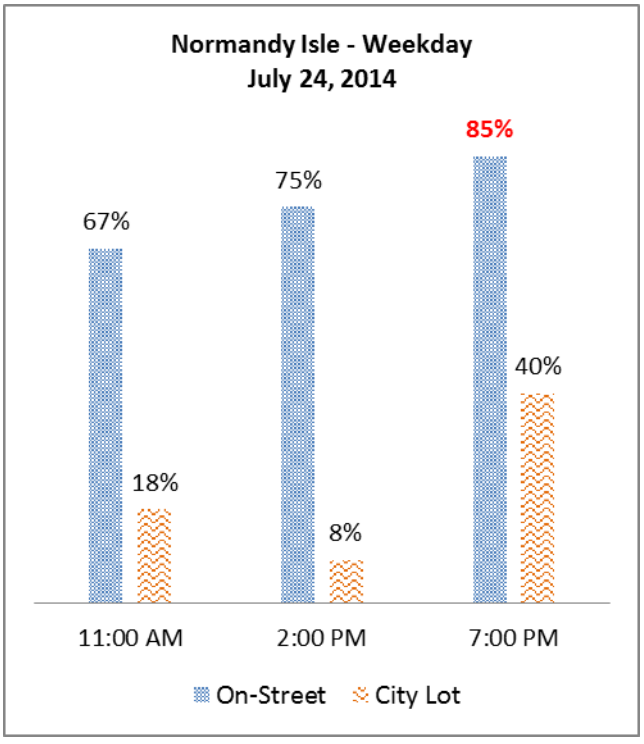
Source: Walker Parking Consultants

The areas covered in this portion of the study are limited to two residential areas. High demand was consistently observed, although as a whole it was just below the 85% occupancy level. Total cars parked during the weekday 11:00 a.m. and 7:00 p.m. observation was the same, with 78% occupancy. The remaining portion of this area is gated single family homes.

Exhibit 30: Normandy Isle Weekday and Saturday Parking Observations July 2014

July 2014				PEAK HOUR
WEEKDAY	**Inventory**	**11:00 AM**	**2:00 PM**	**7:00 PM**
On-Street	1,764	1,183	1,323	1,493
Occupancy Rate		*67%*	*75%*	**85%**
Unoccupied Spaces		*581*	*441*	*271*
Garage	0	0	0	0
Occupancy Rate		-	-	-
Unoccupied Spaces		*0*	*0*	*0*
Public City Lot	73	13	6	29
Occupancy Rate		*18%*	*8%*	*40%*
Unoccupied Spaces		*60*	*67*	*44*
Total	1,837	1,196	1,329	1,522
Occupancy Rate		*65%*	*72%*	*83%*
Unoccupied Spaces		*641*	*508*	*315*

				PEAK HOUR
SATURDAY	**Inventory**	**12:00 PM**	**4:00 PM**	**9:00 PM**
On-Street	1,764	1,453	1,438	1,567
Occupancy Rate		*82%*	*82%*	**89%**
Unoccupied Spaces		*311*	*326*	*197*
Garage	0	0	0	0
Occupancy Rate		-	-	-
Unoccupied Spaces		*0*	*0*	*0*
Public City Lot	73	20	27	45
Occupancy Rate		*27%*	*37%*	*62%*
Unoccupied Spaces		*53*	*46*	*28*
Total	1,837	1,473	1,465	1,612
Occupancy Rate		*80%*	*80%*	**88%**
Unoccupied Spaces		*364*	*372*	*225*



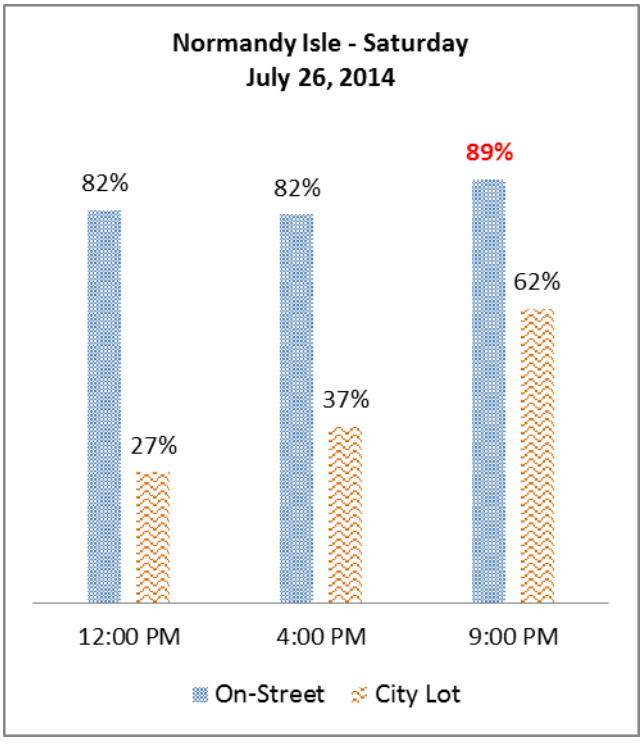
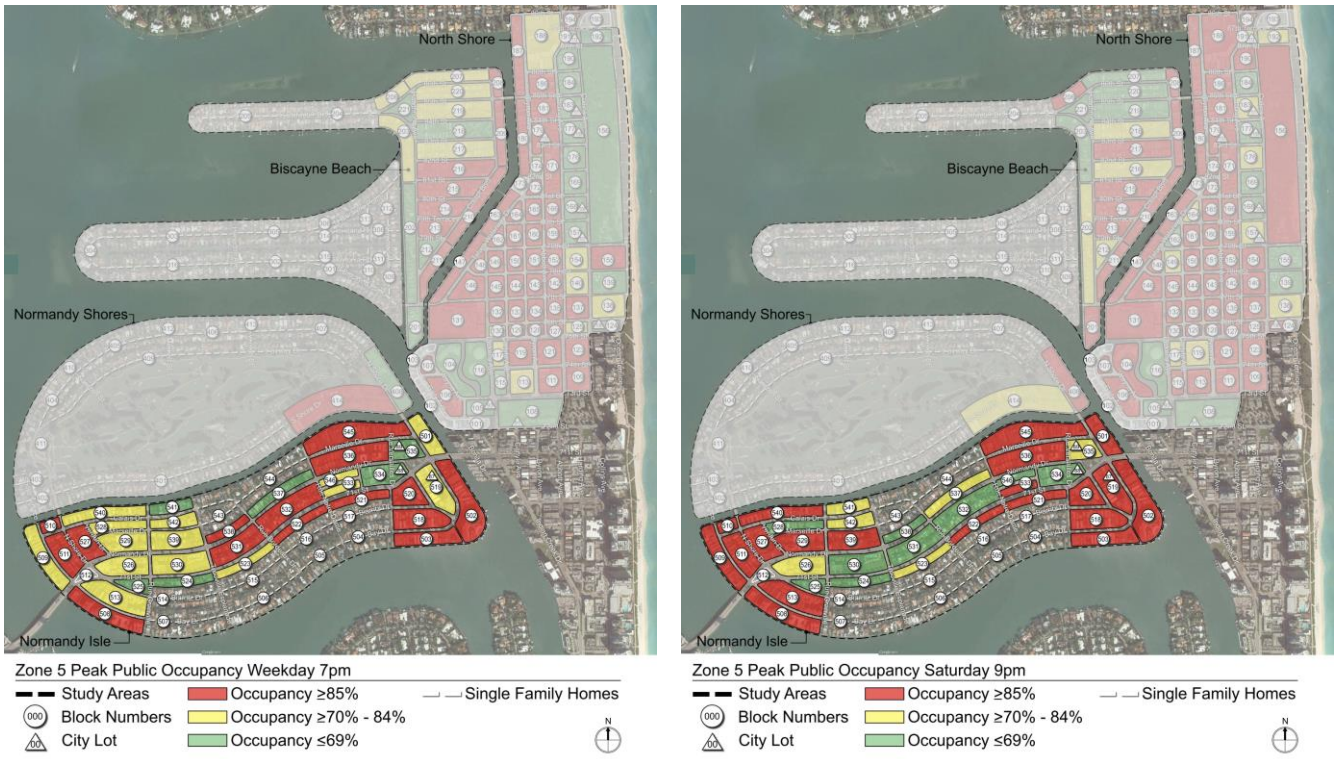


Exhibit 31: Normandy Isle Weekday and Saturday Peak Occupancy Maps July 2014



Source: Walker Parking Consultants

The heat maps show specific areas that experienced high demand levels. These are primarily high density residential areas. Most of the residential buildings provide only a portion of the actual parking demand based on our observations. This leads to residents having to hunt for parking on-street.

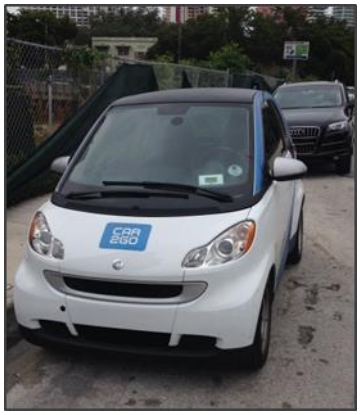
ADDING CITY PARKING

In areas with high residential demand off-street public parking is limited. This is likely due to the limited availability of suitable sites and the high value of land compared to the highest and best use of a limited resource. That being said, the City should monitor the area and if parcels become available small lots may be built to assist with the parking shortages that exist in several areas. During our observations not specific sites were noted. There are other parking management strategies to assist with the overall parking demand, which are discussed in the next section.

PARKING MANAGEMENT STRATEGIES

Adding parking capacity in high demand areas can assist the City by giving more options to the public and to improve revenue opportunities. Beyond adding capacity, the following management strategies are recommended for consideration for North Beach.

ADDING CAR SHARING FOR RESIDENTS



Car sharing can reduce parking demand by providing a network of privately owned vehicles that are rented by the hour or day to registered users. Costs for using a vehicle include all typical ownership costs, including gas and insurance. By having a car share service available, participants can have use of a vehicle when needed without having to actually own a vehicle. Studies and surveys indicate each car share vehicle in service can be used by 6 to 10 households, thus reducing parking and traffic congestion where successfully implemented.

- *2005 Transportation Research Board reported 21 percent of car share members gave up a vehicle after joining.*
- *2006 survey by Flexcar and Zipcar in Washington DC indicated 30 percent of car share members gave up a vehicle after joining and 61 percent postponed purchasing another vehicle.*

The City of Miami offers car sharing through Car2Go. For more information on their program see the following website. http://miami.car2go.com/

Given the high density of residents, cost of vehicle ownership, Miami Beach should consider adding this or similar service.

EXPAND RESIDENTIAL PARKING PERMIT PROGRAM

The City of Miami Beach currently provides residential parking zones in several areas of South Beach. Residential parking zones allow the on-street parking located in residential area to be used by legitimate residents located within the zone. Establishing a residential parking zone requires a majority of the local residents within the specific zone to vote and approve the parking zone. Once established, only residents within the area qualify to obtain a residential parking permit. This allows normally unrestricted parking to be reserved for residents and a limited number of guests to ensure non-residents do not park within the residential parking zone during the posted restricted time periods.

North Beach has a huge residential population. These programs may be useful in certain areas that abut commercial areas where spillover demand may be occurring. In areas that are only residential in nature, a residential permit program would not be very beneficial, as spillover demand is limited.

UNBUNDLING PARKING FEES FOR RESIDENTS

While the City may not have direct control of how the parking is provided to residents, it should encourage landlords to unbundle parking from the monthly rental fee if that is not already being done. This strategy offers residents leasing an apartment the opportunity to lease a parking space for an additional fee, but does not automatically include a parking space with the lease. By providing a separate fee for parking, the true cost and value of parking may be determined by residents. This extra cost or savings, depending on if the space is actually leased, can reduce parking demand in high residential areas and encourage alternative transportation or reducing the number of vehicles per household.

PRICING ADJUSTMENTS

The established parking rates for City public parking varies based on type and location. The following provides a summary of the rates at the time of this report:

- On-street parking within North Beach is $1.00 per hour;
- Off-street parking at City facilities is generally $1.00 per hour during non-events; and
- Off-street event parking is set at $15.00 (flat fee).

We recommend parking fees for City assets be monitored and adjusted to encourage turnover and move patrons from on-street to off-street parking options. Our observations found several on-street areas where occupancy levels reached and exceeded 90 - 95 percent. Based on our observations, we recommend the City consider the following pricing strategies:

- Increase metered on-street parking rates that are currently $1.00 per hour to up to $2.00 per hour in increments of $0.50 to $1.00 per hour or if results are wanted sooner, go the full increase at one time, with the goal of reaching occupancy levels of 85 to 90 percent for on-street parking;
- Continue to survey parking occupancy and rates with the goal of balancing parking use and encouraging the use of off-street parking areas;
- Utilize additional revenues to increase parking capacity in those areas that would benefit the most; and

Our recommendations are based on our observations and industry best practices. Pricing should be used as a management tool and continually monitored for its effectiveness. We recommend gradual adjustments to achieve the desired results, although implementing one large rate adjustment can result in a more immediate impact. If the increase does not provide satisfactory results, they may need to be tweaked further in the future.